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Inaugural Address
ON
UNIVERSITIES AND MEDICAL EDUCATION.

Delivered at the Opening of the Medical Session of the Victoria University of Manchester on Oct. 1st, 1912,

BY H. D. ROLLESTON, M.D. CANTAB., F.R.C.P. LOND.,

SENIOR PHYSICIAN, ST. GEORGE'S HOSPITAL; EXTERNAL EXAMINER IN MEDICINE IN THE VICTORIA UNIVERSITY OF MANCHESTER.

GENTLEMEN,—In the first place, in thanking you for the high honour of being entrusted with the delivery of this inaugural address, I must express the anxiety with which I accepted your Vice-Chancellor's invitation. On such an occasion the choice of subjects is so comparatively limited that there is a distinct danger of repeating in feebler language the substance of past speakers or of originating commonplaces.

INTRODUCTORY REMARKS.

At the present time there are several reasons why the relation of Universities to medical education is a natural subject for review. Changes in the older Universities and the multiplication of vigorous and well-equipped Universities in the provinces within recent years have among other beneficial results brought a medical degree within the reach of an increasing number of medical students, and it may be predicted without much hesitation that in the future almost every medical student will be attached to a University. Medical education has recently been much discussed, especially by Mr. Abraham Flexner in two reports to "The Carnegie Foundation for the Advancement of Teaching," the first of which gave a detailed criticism of the medical schools and teaching in the United States of America and Canada (1910), while the second[0] was devoted to a general survey of medical education in Europe (1912). These reports insist that medical education is an educational rather than a professional problem. The Royal Commission on University Education in London, which has brought out five reports, the last two appendices of which[2] contain much interesting evidence on medical education from about 50 witnesses, not only from the metropolitan but from a general standpoint, is now considering its final report and recommendations. A Congress of 53 Universities of the British Empire met in London in July, at which the relation of Universities to technical education was one of the subjects dealt with.

In the past it has often been felt that Universities should not give a technical training, or that they should at most be concerned with principles and not with their practical application. In other words, that a University should continue and expand the work of the schools into a liberal education rather than provide a strictly professional instruction, however good. This was partly due to the proper ambition to send out graduates with a broad outlook and humanisation of character, and partly to a persistence of the vested interests of the classical tradition with which English Universities in the past were almost exclusively concerned. But the view that Universities should not give technical education, though they might examine for and confer medical degrees, may, in the light of the special courses and diplomas set forth in their calendars, be safely regarded as a thing of the past.

THE BEST GENERAL EDUCATION FOR MEDICINE.

No doubt the medical graduates of a University should have a groundwork of general culture and scientific discipline on which their technical knowledge is superimposed, otherwise their training would in no way differ from that given by a technical school. But is it true, as has been and is often assumed, that the necessary general culture can be obtained in one way only? The advantage of "the grand old fortifying classical education" is such a familiar *motif* in addresses given on occasions such as this that it may appear philistine to suggest that the Humanities—*literæ humaniores*—are not absolutely essential to a medical man who perhaps more than anyone should act up to the motto "Nihil humanum a me alienum puto." It must be freely admitted that in the past many, if not most, of the eminent men of our profession went through the classical mill with the same success that characterised their professional life. But it hardly follows that the early was the cause of the later success. On the other hand, although in their time education was in the main a classical monopoly, some of the immortals of our profession, such as John Hunter, owed little or nothing to its influence. Such exceptional geniuses, however, are born with the qualities which enable them to become what they are, and are not educated to it. The school and University routine of Latin and Greek is a hardy survival from the time when Latin at least was of distinct use as a means of communication between men who had no other common language, and was the medium of correspondence of statesmen and philosophers. This no longer holds good to the same extent as it did two centuries ago, and though French and English have to some degree taken its place, the want of a universal language is shown by the construction of artificial substitutes such as Volapuk, Esperanto, Ido, Neutral, and by the movement for the adoption of a simplified form of Latin as an international language under the name of "Latino." The passing of classical quotations in ordinary life is a prominent feature of recent years, and however true the Duke of Wellington's advice to a young Member of Parliament—"Say what you have got to say, don't quote Latin, and sit down"—may be in other respects, the second is no longer necessary. To quote a hackneyed tag, "Tempora mutantur, nos et mutamur in illis"; and in the present circumstances—namely, the enormous advance and scope of science—the value in medicine of a classical grounding requires unbiassed consideration with the object of determining how much should be required from future practitioners.

RESULTS OF CLASSICAL TRAINING AS REGARDS SCIENCE AND MEDICINE.

Valuable as a really good classical training is in some respects and attractive as its advantages are in brilliant exceptions, the bulk of medical men pay somewhat dearly for the luxury of any aroma of classical culture which still clings to them in late middle life to compensate for the years spent at school and sometimes at the University on the dead and difficult languages. A large proportion of medical men have almost entirely forgotten the Greek they once knew, or at most can recall just enough to understand and spell the never-ending flow of new and often unnecessary medical words, some of which bear witness to their inventors' originality in being composed of the Greek termination *itis* appended to a Latin noun or even a comparatively modern name; such are Bartholinitis and Wirsungitis. Latin is more familiar, but largely because prescriptions are still supposed to be concealed from the public by the garb of Latin words often discreetly and somewhat illegibly abbreviated. It may safely be concluded that to the ordinary medical man the direct or marketable advantage of a classical training is entirely out of proportion to the amount of time commonly devoted to it. But it is often urged that, apart from any intrinsic use, the classical languages, in virtue of their peculiar structure, give a mental training and discipline which cannot be obtained from the study of French and German. This statement is difficult to prove, and we have the high authority of Sir Clifford Allbutt[1] for the dicta that "it is not so much *what* a man is taught as *how* he is taught it," and that "the current teaching of Greek and Latin is a parody of education; not only does it restrict the range of the teacher and pupil, but the imaginations of both are stunted." After nearly 20 years' experience as a master at Eton, A. C. Benson[4] frankly characterises the results of the classical routine as "intellectual starvation." The want of success of the public-school masters in this respect is hardly surprising, as they are not obliged to undergo any technical training for the profession of teaching—surely an extraordinary anachronism! Further, although many will agree with Stanley Leathes[7] that "no wrestling with the awkward structure of a German sentence, no graceful manœuvring with the myriad idioms of French, will ever give the easy mastery of language in general that comes from long practice in the artistic construction of Greek and Latin sentences," the ordinary school and University classical education is disappointing in the comparative frequency of its failure to engender the power

of writing clear and graceful English. This is probably due to defective teaching and to the neglect of literature in favour of grammar. There seems reason to believe that a classical education does not give the average man any considerable advantage in science and medicine. Philological culture, as Helmholtz pointed out, fosters dependence on authority and militates against individual observation; again, the laws of grammar which have their exceptions do not prepare the mind for the invariable character of physical laws. In fact, the mental attitude of a classical scholar is different from that required at the threshold of a scientific course. The time occupied at any rate by a University classical education is a serious factor, for by the time such a course is completed much of the energy and plasticity of youth has begun to subside. Further, a good classical training often entails neglect of modern languages. This is a most important consideration, for there can be no question that in medical science a knowledge of French and German is of incomparably more use than the highest classical attainments.

SUGGESTED COMPROMISE.

The question of compulsory Greek has recently been much discussed at the older Universities, and although the teachers of Greek, who have its interests most warmly at heart, are as a rule in favour of relaxing this obligatory regulation, conditions remain unaltered.* In spite of what has been said about the drawbacks of a prolonged and exclusively classical education, this decision is probably beneficial as regards the elementary education of future medical students, for there is much to be said in favour of retaining the classical languages so long as the teaching of French and German and science is not interfered with or delayed. The dead languages should be taught earlier and better, but they should not be abandoned, and the time spent on them should be rearranged and curtailed. The education best suited for a medical student before beginning his professional subjects should be on the following lines. The subjects ordinarily taught in schools, including Latin and Greek, should be pursued until the age of about 15½ years, when the student's proficiency should be tested by an examination the results of which should count at the University matriculation. After passing this examination the student should spend the next 2–2½ years in obtaining a sound knowledge of French and German, literature, English composition, physics and chemistry, and the necessary mathematics. At the end of this time, when he is from 17½ to 18 years of age, he should be able to pass an examination in these subjects and then begin the study of biology and of anatomy and physiology. This compromise would ensure general culture with a modicum of classical training, and a knowledge of French and German at a time when it can be readily acquired, and yet would not encroach unduly on the time necessary for strictly professional instruction. This education, which is somewhat on the lines provided on the modern side, would be far better than that given on the classical side at public schools, and by providing a good basis of physics and chemistry would do much to remedy the prevailing difficulty of the early science examinations in the medical curriculum.

THE TEACHING OF PHYSICS, CHEMISTRY, AND BIOLOGY.

No doubt the ideal standard is that every student of medicine at his entrance to the profession should be a graduate in arts, with a sufficient knowledge of physics, chemistry, and biology, and of French and German; but these requirements, which are maintained at the Johns Hopkins Medical School, demand more time than can, or should be, afforded by the average student, and it is for the average student that arrangements and regulations must be adapted. The pressure of the sciences to be acquired, at any rate in some degree, by the medical student is no new cry, but it is becoming more urgent. In an address on "Medical Education at the Universities" (1875), in which he pleaded for the establishment of what is now the Victoria University of Manchester, the late Professor J. E. Morgan, the broad-minded author of "University Oars," insisted on the exacting demands made on a candidate for the M.D. London, and quoted with approval the remarks made by Dr. P. M. Latham in 1835, at about the time that University obtained its charter: "Now I am persuaded that there does not exist at this day in the profession an individual who comes up to the standard which (it is implied) all ought to reach. ..... I have known one, and one only, who came up to the requirements of an introductory lecture which I have read, and that was Dr. Thomas Young. But Dr. Young stood alone among mankind. ..... Yet Dr. Young was the only person whom any man now alive ever saw learned and scientific enough for a physician according to the Utopian measure of things." Dr. Young, of course, was the originator of the undulatory theory of light, who, though the most comprehensive genius and the greatest man of science who ever became a member of our profession, was not a striking success either as a clinical teacher or in private practice. If the remarks as to the demands made on medical students were true 77 and 37 years ago, what estimate must be acknowledged at the present day? For although the statutory curriculum was increased from four to five years in 1898, the average number of years spent by students is nearly seven, and only about 14 per cent. become qualified in the minimum time. The time occupied by the purely technical education is encroaching more and more on what should be active professional life, and there is, therefore, a tendency to push back the commencement of medical studies into the ordinary school curriculum.

The necessity for curtailing the amount of knowledge demanded from medical students is widely recognised, but the question where and what curtailment should be carried out has given rise to a conflict of opinion. The teachers of the earlier subjects naturally desire that the preliminary education should be satisfactory; whereas some clinical teachers, rightly imbued with the importance of adequate hospital experience, urge that the preliminary subjects should be pruned and all that is not essential cut out (West[11]). It has been suggested that students might be taught some subjects, such as biology, but not tested by examinations, which undoubtedly exert an evil influence on the best men. In the absence of this obligation, however, it is probable that students would not take their work seriously. The question whether or not the preliminary subjects of medical education, chemistry, physics, and biology should be taught at schools and so disposed of before entering a medical school or University has been much discussed. In May, 1911, the General Medical Council recognised secondary schools, when approved by the licensing bodies, as places where physics, chemistry, and biology might be taught, allowance for the time so spent being made to the extent of six months in the five years of the medical curriculum. This question was again under consideration in the summer session of this year and this decision was confirmed. Provided that the teaching of classics is concluded by the age of 15½ years or so and is succeeded by a course of 2½ years' education in French and German, literature, English composition, science (chemistry, physics, and possibly biology), and the necessary amount of mathematics, it is a matter of convenience rather than of vital importance whether this is carried out on the modern side of a public or secondary school or at a University. It should be done where it can be most efficiently carried out.

It has been urged that the grounding in chemistry, physics, and biology given in secondary and public schools is not adapted for medical students, that more is demanded in the direction of pure science than is necessary, and that the special requirements of medicine are not sufficiently correlated with the science teaching which thus becomes a water-tight episode in instruction. It is held that the teaching of these preliminary subjects should be specialised and remodelled from the point of view of the practical utility in medicine, and more laboratory work in general, and particularly in organic and biological chemistry, included. It is stated that this specialisation cannot be effected at secondary and public schools, and that it must therefore be carried out in a University and by a teacher familiar with the requirements of progressing medical practice; and, further, that if these subjects are taught in schools the general education and culture of the students

* Although it tells against the restriction of classical education, it would be a pity not to quote J. P. MaHaffy's story of "the school boy who said proudly that he had chosen the medical profession, and was already preparing for it. On being asked what the preparation consisted in—Botany or Zoology or what?—he answered contentedly, 'Oh, not at all, but I have given up Greek!'" (John Stearne, an address delivered in the Theatre of Trinity College, Dublin, at the Bicentenary of the Medical School, July 5th, 1912, p. 10. Printed at the University Press by Ponsonby and Gibbs.)

would be encroached upon. On the other hand, it has been argued that during recent years the science teaching at the public schools has been revolutionised; that the preliminary sciences should be taught on broad lines so as to lay some basis of a liberal scientific education, and not purely as applied sciences; and that it is not necessary that the teacher of the preliminary subjects should be a medical man, or that the instruction should be carried out in a University laboratory rather than in a properly equipped school. Also, that if chemistry, physics, and biology are taught by the Universities boys would necessarily leave school for the Universities at an early age—about 16—a course which would be most disadvantageous if it interfered with instruction in French and German, literature, and English composition. This seems a strong argument, for unless this instruction can be satisfactorily provided at a University, and it seems doubtful if this can be done so efficiently as at school, the general education would be very seriously curtailed. Further, there are obvious drawbacks in emancipating boys from school influence and discipline at the age of 16, and casting them loose into a strange University town.

Those who advocate that the preliminary subjects should be taught in the schools usually include biology with chemistry and physics, and this plan is obviously advantageous from the point of view of saving time. But the biology most suitable to medical students is not so much a science which must precede human anatomy and physiology as a parallel or illustrative science as far as they are concerned, and like them a useful introduction to pathology and medical practice. The specialised biology necessary for medicine requires the services of a medically-minded teacher in a greater degree than do chemistry and physics, and would therefore appear to be more conveniently carried out in University laboratories than in schools. While there are obvious advantages in introducing physics and chemistry into the last two years of a boy's school life, biology, being on a somewhat different footing, should be postponed until the University course begins, and might be taught during the first three months—preferably the first summer term. In cases in which the student has easy access to a University close to his home and can begin a satisfactory two and a half years' course in modern languages, English, science, &c., at the age of 15½–16, the biology could be conveniently taken at the same time as the necessary physics and chemistry. In either event biology should be taught as far as possible from the point of view of future utility in medicine. Thus, fungi and bacteria, amœbæ, protozoan and other human parasites, and carriers of disease might be used as "types," and so become familiar at an early stage of the student's career. Some embryology should also be included in the course.

The Teaching of Anatomy and Physiology.

In view of the extensive demands on the medical student it has been suggested that the time spent on anatomy and physiology should be curtailed by altering the teaching so as to insist on those details only which are of obvious practical use in medicine and surgery. Thus, medical and surgical or applied anatomy, and not the science of anatomy, would be taught, and the minute details of bony markings, the relations of muscles, and other points in descriptive anatomy which have no direct utilitarian bearing would be omitted. Physiology would be pruned to some extent, for example, by the elimination of exercises in muscle-nerve preparations. On the other hand, more attention would be paid to visceral topography and to the minute study of fresh organs—for example, recognition of the Malpighian bodies in the spleen, the glomeruli of the kidney, the cross-section of the suprarenals, the vessels and bile-ducts in the liver. The appearances of the thorax and of the alimentary canal (by means of a bismuth meal) would be demonstrated with the *x* ray screen; normal anatomy would, when suitable opportunities arise, be correlated with clinical and pathological changes; and the descriptive lecture would be confined to aspects of the subject such as the lymphatics and development which the student cannot verify in the dissecting-room. These and other ways in which the teaching of anatomy may be improved were so fully considered last year by your distinguished Professor of Anatomy that it is unnecessary to proceed further. The teaching of physiology might be made more utilitarian by adopting similar methods: the stethoscope might be employed to demonstrate the sounds of the heart and lungs, greater familiarity with the sphygmometer, the polygraph, &c., ensured, and in the histology class the tissues and organs of man only employed.

Any utilitarian limitation in the amount of anatomy and physiology taught by the Universities must be most carefully considered and, if adopted, frequently revised. For with the constant advance of medicine and surgery it is obvious that anatomical and physiological knowledge which to-day appears of scientific interest only may to-morrow have most important practical significance. This applies with special force to physiology, in which it is most difficult to prophesy what parts of the subject should be ruled out as unlikely to be of use to the practitioner of the future.

Apart from their direct practical application these sciences have a great educational value. Practical anatomy educates the powers of accurate observation and of classification, trains the memory, develops the inductive processes of reasoning, and confers manual dexterity and quickness of eye. In addition to teaching anatomy, physiology, and biology to medical students, Universities have to provide for advanced students and for the research in these subjects.

Clinical Medicine and the University.

In English Universities the Professorships of medicine and surgery differ from those of other faculties. Their incumbents, unless possessed of ample means, are mainly dependent for their living on sources outside the University, and therefore engage in private practice which must often form the chief interest of their life; whereas the professors of other faculties receive a living wage on the tacit understanding that their activities shall be entirely devoted to their chairs. A clinical professor under present conditions is therefore a pluralist, and though no doubt, in virtue of the catholicity of his interests, he is a better man, there is a limit to human capacity, and it is impossible for him to be equally efficient in all the obligations of such a position. The duties and responsibilities of such a post include (1) the care of the sick in the hospital; (2) clinical instruction in the wards, clinical and perhaps systematic lectures; (3) official duties in the University and medical school; (4) the cares and anxieties of a consulting practice rendered necessary to earn a living and to provide for his family and old age; (5) reading and investigation of new methods so as to keep abreast of modern knowledge; and (6) original research in order to advance the science of medicine. The claims of the first four of these spheres of activity leave little time for anything else, and especially render research almost impossible. It therefore follows that one of the functions of a University—namely, original research for the advancement of scientific medicine—is practically prevented by the conditions under which the professors hold office. British medicine has certainly no cause to be ashamed of its achievements in the past, but they have been the outcome of individual enterprise and in the face of difficulties which from the enormous advance and specialisation of medical science are now much more formidable. It is therefore hardly surprising that research into the problems of medicine is passing out of the hands of hospital physicians and surgeons. With notable exceptions, such as Mackenzie's work on the heart and Head's on the nervous system, recent advances—for example, those in tropical medicine and parasitology and in the serum and vaccine treatment—have mainly come from men with time and opportunity to work out their ideas in a laboratory, and not from practising physicians and surgeons. The remark of one witness (a pathologist) before the Royal Commission on University Education in London, that "I do not know a solitary physician who is famous, apart from the neurologist, for his original work,"[5] while it overstates our deficiencies, shows that this tendency is fully recognised. An atmosphere of active investigation exerts a beneficial influence on students, for although the original worker is not necessarily a good or inspiring teacher, the best teacher is one who is also engaged in research, because he stimulates independent thought and inquiry in his pupils, and thus counteracts the dogmatism which is perhaps a necessary element of success in elementary teaching. From the University standpoint clinical medicine may be divided into (*a*) the teaching of the applied science; and (*b*) the pursuit of the pure science. As far as the object of the medical faculty is to turn out sound practitioners of

medicine, the present arrangement has worked admirably. But to place medicine on an equal footing with other sciences as regard facilities for research, some change is necessary, and on the difficult question how this is to be effected there is considerable difference of opinion.

Possible alterations are the following:—

1. That the professors of medicine, surgery, and obstetrics and gynæcology, whose conditions of tenure would be unchanged, should each have several assistants of proved ability. These assistants should be paid a living wage, and in return should for some (5 to 10) years devote the whole of their time to their chief's clinic. They should take an active part in the teaching as the professors should direct, and at the same time should specialise in some department—for example, to take medicine, in pathological chemistry and metabolism, hæmatology, neurology, or infectious diseases—in which they should pursue original investigation. This would make clinical medicine more actively productive and would provide a class of scientific clinicians from which professors of medicine could in the future be selected. Such assistants would be of the rank of, or actually be, registrars or junior assistant physicians and assistant surgeons, but would while holding this post be debarred from private practice.

2. A second possible change—namely, the establishment of the whole-time professors of clinical practice, though in principle only an expansion of the first—has not unnaturally aroused much criticism and some opposition, for it would radically change the status and prospects of the professors of clinical practice. The sciences of anatomy, physiology, and pathology, which 30 years ago were, except in some Universities, usually taught by surgeons or physicians as a side or early issue in their active professional life, are now almost everywhere entrusted to specialists or whole-time teachers, and with almost unanimous approval and success. The question is now arising as to the specialisation of the clinical teachers on the same lines. Personally I am convinced that this reform will eventually be effected with advantage both to medicine as a whole and to medical education. The ideal of the whole-time professors of medicine and surgery who, like the professors of pathology, expend all their energies in teaching and working at their branches of medical science, and are continually in touch with the wards which form their laboratories, has often been carried into effect, especially in Germany, in spirit, though not in the rigid letter as to total restriction from private practice. The whole-time professor should be appointed when comparatively young (30–40), so that he has a prospect of at least 20 years' active work. He would be provided with a staff of competent assistants of the same calibre as those mentioned above, and must be paid an adequate salary and given a retiring pension graduated on the duration of service. The professor would be responsible for the organisation of his department, would teach, pursue and inspire original research, and set a high scientific standard. It is obvious that, being always on the spot, he should be a much more efficient head of the department than the part-time professor.

As this whole-time ideal has in the past been more nearly approached in Germany than elsewhere, some critics have assumed that its adoption would entail the substitution of the German method of demonstration of cases before large classes for the bedside and individualised teaching which is such an eminently successful feature in this country. But it is surely somewhat illogical to fear that the German system would be slavishly followed in its entirety. The problems and difficulties connected with the institution of this new type, the whole-time professor of clinical medicine and surgery, have been brought out in the evidence given before the Royal Commission on University Education in London,[2] and in this connexion attention may be directed to two addresses by Professor Lewellys Barker,[3] the first in 1902 when engaged entirely in laboratory work, and the other in 1911 when professor of medicine in the Johns Hopkins University and physician-in-chief to the Johns Hopkins Hospital. In the earlier address he pleaded for clinical professors "on a University basis," that is, with salaries large enough to enable them to dispense with private practice. In the second address, based on his experience as a professor of medicine, he deprecates hurry in making such a radical change, and advises the institution of endowed whole-time researchers who during their most productive years (25–45) should rapidly increase the scientific output of the clinics and would form a group of men from whom professors could be subsequently selected. The advantages of the whole-time system—namely, undisturbed contact with the hospital patients and students, opportunities for uninterrupted research, for keeping up with the literature, for organising a school of research workers, and the improvement in the teaching, both ordinary and advanced, which would thus result—are sufficiently obvious. Much has been said on the other side; it has been stated, among others, by Sir William Osler, that it would be impossible to keep the public away from a man so conspicuously and favourably placed; and that if this isolation could be preserved the professor would suffer from his narrowed outlook on medicine or, as it has been expressed, that he would be a professor "of hospital practice" rather than of "clinical medicine,"[10] and that he would come to regard patients somewhat in the same light as guinea-pigs and from the laboratory rather than from the broad humanitarian point of view. As a result of the teacher's want of familiarity with the art of managing patients the students, who are to be the future practitioners of the world, would be placed at a disadvantage. Further, it has been urged that, as medicine and surgery are so extensive, a whole-time professor would be obliged to specialise in some branch or other, and so be unable to teach all the branches of his subject with uniform efficiency, and that thus the conception of an all-round Admirable Crichton would fail.[8]

3. To debar the professors from private practice entirely is as yet without precedent in this country, and would necessitate very considerable financial endowment. A less radical change has naturally been suggested—namely, that the chair should be half- or three-quarter time, and that one day and some afternoons in the week should be free for practice; or that paying wards attached to the hospital should be at the professor's disposal, so as to minimise the waste of time involved in ordinary consulting practice. This would to some extent meet the financial difficulties and the objection that a whole-time appointment would cramp the professor. The drawback, and it is a considerable one, to any kind of part-time appointment is the difficulty in restricting the amount of private work; for, though it might work well at first, the demands on such an incumbent's services must almost necessarily increase with time and eventually encroach seriously on the professorial duties. It is undoubtedly easier for the incumbent of such a chair to abstain entirely than to be temperate in consulting practice.

4. The ideal of the whole-time professors with their expert assistants might be grafted on to the present system, so that the students would all pass through the hands, first of the part-time and subsequently of the whole-time teachers. The advantages of both systems would thus be obtained, and during the period of transition any injustice or interference with the vested interests of present teachers, who have borne the burden and heat of much unremunerative work, would be obviated. It has been suggested that the students should come under the whole-time teacher in the interval between the M.B. and M.D. degrees, but as most students are obliged to begin earning their own living as soon as they are qualified this plan would probably be often defeated.

5. *Special research hospitals.*—It is more satisfactory to combine research and the teaching and training of University students by whole-time professors and their skilled assistants than to make special arrangements for original work alone, because the scientific spirit is thus more widely diffused. Instead of the establishment of whole-time professors in conditions favourable alike for research and scientific instruction, endowment has already been provided for scholarships, and in a few instances for research hospitals. At Cambridge, which led the way in this study of special diseases, though only in a private house containing four beds, a small hospital was opened on May 24th of this year. Some 4000 cases of rheumatoid arthritis have been carefully recorded and investigated. The hospital attached to the Rockefeller Institute for Medical Research, New York, contains 70 beds which are utilised for selected cases bearing on a limited number of subjects chosen for investigation. In the first year the selected subjects were acute lobar pneumonia, acute poliomyelitis, syphilis, some disorders of metabolism, and certain forms of cardiac disease; in the second year a limited study of scarlet fever was also carried on.

UNIVERSITIES AND THE ONE-PORTAL SYSTEM.

It has been urged at intervals since 1869 that there should be a one-portal qualifying examination, corresponding to the State examination of other countries, so as to protect the public by ensuring a uniform standard of professional efficiency. The function of maintaining the standard of the qualifying bodies of the United Kingdom at a proper or "sufficient" level is at present entrusted to the General Medical Council. But the recent increase in the number of Universities has made this task less manageable. It is hoped that the State examination would simplify and diminish the number of examinations, as it would relieve the Universities of the responsibility of testing the fitness of candidates to practise. The final examination by the State Board in medicine, surgery, and obstetrics would admit men and women to the Register with the clear understanding that they should be entitled to be called "doctor,"[9] the results of earlier professional examinations carried out by the Universities being accepted. In their evidence before the Royal Commission on University Education in London the representatives of the two Royal Colleges advocated that the admirable machinery of the existing Conjoint Examining Board should be utilised for the one-portal examination in England. As a result of the establishment of a one-portal system University degrees would become honorary instead of qualifying, and incidentally examining bodies which now grant ordinary diplomas to practise would die of inanition. For the University degree some further requirements in the way of an examination—not a repetition of that carried out by the State board—would be necessary. What exact form this test should take remains to be determined; but in order to make the medical degrees of Universities mean more than superior qualifications alterations in, or rather additions to, the curriculum, such as one of the following, might be made:—(1) Six or 12 months' residence as a medical officer in a hospital might be demanded before the degree is conferred. In existing circumstances this would entail a qualification to practise from some licensing body and would therefore add to the trials of the already over-burdened student. It is true that 67 per cent. of men who reach the final examinations for the M.B. degree of Universities in England at present take the Conjoint Board examinations, but they do so for their own convenience, probably to hold such resident appointments before they are able to obtain the higher qualification; and it should be added that this 67 per cent. is made up in the following way: Of those taking the degrees of Oxford, Cambridge, and London Universities, 82 per cent. enter for the final Conjoint Board examination, while from the Northern Universities not more than 40 per cent. do so. In the event of the establishment of a compulsory one-portal examination the necessary resident appointment would be held between the two examinations and any hardship involved under present conditions would disappear. In the past, when there was often considerable competition for such appointments, it would not have been fair to insist on this obligation for a University degree, but now that resident posts are often difficult to fill the objection that opportunities for fulfilling the necessary regulations are not available could not be upheld. (2) Instead of the M.B. degree being the natural outcome of passing the necessary examinations, a thesis might be demanded so as to show how far the mind has been trained rather than crammed, and to bring out evidence of the ability to think and report logically and intelligently on what has been observed. This exercise for the M.B. degree, which is at present demanded only in the University of Cambridge, might with due precautions be protected from abuse and evasion. (3) The students might pass for a period of 12 months or so into the hands of the whole-time professors of medicine, surgery, and obstetrics and gynæcology.

There are, however, difficulties in the way of adopting a one-portal system of qualification. In the first place, the Universities would have to give up their right to qualify their graduates to practise, an act of self-sacrifice which might not appear to them to be fully counterbalanced by the advantages secured. The examination, in order to be uniform, must be conducted by one board of examiners which would be made up of representatives of the various teaching Universities in England, just as now holds good to a certain extent in the constitution of the Conjoint Examining Board in England. It is doubtful if the provincial Universities would consent to the examination being conducted exclusively in London on account of the inconvenience both to their students and their representatives on the examining board. The written examination could be held in various centres, but if the clinical part were also decentralised it would be difficult to utilise the same examining board as in London, and if any extensive change in the *personnel* of the board occurred, the result might not be materially different from that at the present time.

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Abstracts of Two Lectures
ON
VENTRAL HERNIA, TRAUMATIC OR INCISIONAL.

Delivered at the Medical Graduates' College and Polyclinic,

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LECTURE I.

GENTLEMEN,—Amongst the varieties of hernia which come through the abdominal wall to which the term ventral is given is a large group which, according to its origin, may be classified generally under the designation "traumatic," most of them being "incisional," or following the operative treatment of some form of intra-abdominal disease. This is practically a group of modern development, and deserves greater attention than it has usually received, because the sufferers from it are coming in increasing numbers for relief. Very little is said about it in our textbooks, although many surgeons have probably referred to it in their course of lectures on the abdomen. I wish in this lecture to draw your attention to this kind of hernia only, for if it is to receive attention at all equal to its importance there will be no opportunity of including other varieties in the time at our disposal.

CAUSATION.

This incisional hernia may be difficult to control by means of apparatus, often causes attacks of pain, may attain a large size, and seriously cripples the patient. A hernia is very likely to form, after an abdominal operation, at the period of life when the tendency to the deposit of fat both within the abdomen and in the abdominal wall is increasing. This fat deposit is a most potent agent in weakening an imperfect abdominal wall and further enlarging an opening which already exists.

As I have said, the traumatic variety is chiefly comprised under the heading of "incisional," the weakness manifesting itself at the site of an operation wound. It may follow the spontaneous bursting of an abscess, a blow or crush producing a rupture of muscle (as a primary or secondary occurrence), or a wound from some cutting or stabbing instrument. Wounds of the abdomen (other than those made by the surgeon) are very rare in London at the present day, the use of the knife in quarrels not being common outside the comparatively small foreign quarter. Some years ago, however, I had a woman under my care for a large hernia on the right side of the abdomen, through a scar which she said had been accidentally caused by a Zulu short stabbing assegai three years before she came to the Royal Free Hospital. Something

must be said when considering "incisional" hernia about prevention, although it is not necessary to speak at length, because Sir Alfred Pearce Gould has given an excellent clinical lecture on the subject.[1]

There are certain lines and regions of the abdominal wall which all must have clearly in mind when discussing this question; the most important of them is the linea alba, and after that the linea semilunaris. It was once the rule to do all abdominal operations through one of these lines, and most commonly the linea alba was selected. For this there were many reasons: 1. Such an incision gave direct access to the diseased parts, could be easily extended upwards or downwards, and permitted the operator to secure the pedicle of an ovarian tumour with equal facility on either side. Operation was mostly required for disease in the lower abdomen or pelvis, and not for acute conditions, or for diseases of the stomach, gall bladder, or appendix. 2. The wall was at its thinnest in this line; therefore it took little time to get through it, and a comparatively short time to close it when the surgeon had finished. 3. There was hardly any hæmorrhage to embarrass the operator, and in the days when Spencer Wells's forceps were unknown this was of great importance.

Some will remember the time when it appeared to be the aim of an operator to extract an ovarian tumour from the abdomen through an opening as minute as possible. Many years ago I had a short correspondence in THE LANCET on this subject, in which I ventured to protest against the principle of such an incision. The danger of suppuration was considerable and respect for the peritoneum great in those days; the danger of a subsequent ventral hernia was not considered. The fear of making too large an incision only departed when our improved methods of wound treatment rendered any cut made by the surgeon in the abdominal wall practically safe. The injury inflicted on the edges of a small wound by the surgeon's manipulation and instruments increased the danger of the suppuration which it was intended to minimise, whilst a small opening prevented satisfactory management of adhesions.

With the advance in our knowledge of abdominal diseases, and increased confidence in our power to deal with them by operation, we have for a long time reached a stage when we not only plan a particular operation, but try to do it in such a manner that the abdominal wall, at the site selected for the necessary incision, shall afterwards be as strong as it was before the operation was commenced. We want, in other words, an incision which will give adequate access to the disease, but leave behind no weakness which will give trouble in the future. When arranging this we find an accurate knowledge of anatomical structure of the utmost importance.

ANATOMICAL STRUCTURE OF ABDOMINAL WALL.

You must appreciate the peculiar arrangement of the rectus muscle as regards its sheath, also the area which this muscle covers. The part which the lateral muscles play in rendering the abdomen secure must also be taken into consideration, for neglect to do so may lead to much trouble through a badly planned incision.

For practical purposes there are two muscular groups—the anterior and the lateral. Of the former we need only mention the recti abdominis, running from above downwards, in the latter the external and internal obliques, and the transversales, running in different directions but conjoint in action. The recti abdominis hold the front of the abdomen, extending laterally towards the iliac spines over a space greater than is usually allotted to them, for they reach to within two inches of the anterior superior spine of the ilium on each side in the adult, being thus spread over a great part of the anterior abdominal wall. Each muscle is unusual inasmuch as it is mostly contained in a sheath, is long, flattened, and very strong. The sheath, of great strength, is loosely attached to the muscle which it encloses excepting at the lineæ transversæ and occasionally where fibres are inserted into it, and permits of no outward deviation in the line of the pull, so long as the two are attached together by an uninjured linea alba. The tendinous intersections of the recti possess value from the surgical as well as from other points of view.

[1] Brit. Med. Jour., Dec. 9th, 1911, p. 1517.

VENTRAL HERNIA IN SUPPURATIVE AND CLEAN CASES.

There is no difference of opinion on one point of the subject. All surgeons are agreed that suppuration within the abdomen, which requires the employment of drainage after incision through the abdominal wall, is likely to be followed by weakness later on. They are apt to differ in their reply when asked their experience concerning incisions which have not been complicated by suppuration either before or after operation. Some do not admit that hernia occurs in their practice; others, perhaps, confess that operation is followed by weakness of the incision in a small percentage of clean cases.

It is, of course, very annoying to find that a patient for whom an exploratory operation has been done, or perhaps an operation for the rectification of a painless disease, has developed a ventral hernia which is causing more inconvenience than the trouble for which the incision was made. When the original operation was for something which required a long and difficult manipulation or the patient knows that life was saved by it, there is less disposition to gird at the operator should a hernia afterwards develop, and less surprise is expressed by the surgeon when it is met with. It must be recognised, however, that even at the present day, with our greatly improved technique, it is impossible to guarantee absolutely that an incision in the linea alba, whether made above or below the umbilicus, will not yield during after life. Convalescence may have been quite perfect, no cough has troubled the patient, nor did the anæsthetic cause undue strain or vomiting, yet the unpleasant fact remains and has to be faced—a hernia may form in spite of our care.

All scar tissue has a tendency to contract, but this may be overcome, and there are special reasons why a cicatrix should stretch when it enters into the formation of the abdominal wall. In every part of this it is subjected to the action of two forces: (*a*) intra-abdominal tension, which varies considerably at different times of the day, and tends to a more permanent increase as we get older and more sedentary in our habits; and (*b*) the action of the muscles of the abdomen, which again is of varying power, and sometimes indeed violent and irregular in consequence of disease. The intra-abdominal pressure is fairly evenly distributed over the whole of the anterior part of the abdomen, but in addition, over the lower part especially, there is the added weight of the abdominal contents when the patient is either sitting or in the erect position.

ABDOMINAL INCISION WITH DISPLACEMENT OF RECTUS.

It may be asked what kind of incision should be substituted for those through the linea alba and the linea semilunaris. It is obvious that if the rectus muscle can be temporarily displaced to one side during an operation, and put back uninjured in its normal bed after the operation has been finished, there will be no possibility of the development of a hernia at the site of the incision. In the operation for the removal of the appendix which I suggested many years ago, and have practised regularly since, advantage is taken of the anatomical arrangement of the rectus. An opening is made to the inner side of the linea semilunaris through the anterior sheath of the muscle, the muscle itself is drawn inwards with a retractor, the posterior sheath incised, the appendix removed, and the incision sutured. This operation possesses many advantages, not the least important of which is the possibility of extending it to any required extent.

Modifications of this method have been since adapted for other operations, the advantage of it being so obvious. At an appendix operation, if the right ovary or tube is found diseased and requires removal, this can be done through the same incision. Should the left ovary or tube be found diseased, it can be removed through a similar incision on the other side at the same sitting, and a perfect wall will be left. Temporary displacement of the rectus outwards after incision of the sheath should be substituted in the early stage of many operations for those which were formerly carried out entirely through the middle line—removal of fibroids, ovariotomy, tubal disease, &c., exploratory operations generally, and operations on the stomach.

It is advisable occasionally to go through the substance of the rectus muscle in some operations, such as gastrostomy by the method of Senn, operations on the gall-bladder and

FIG. 1.

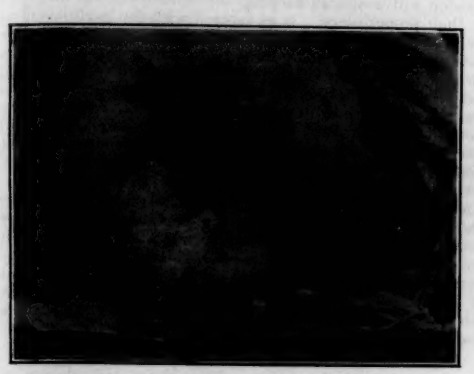
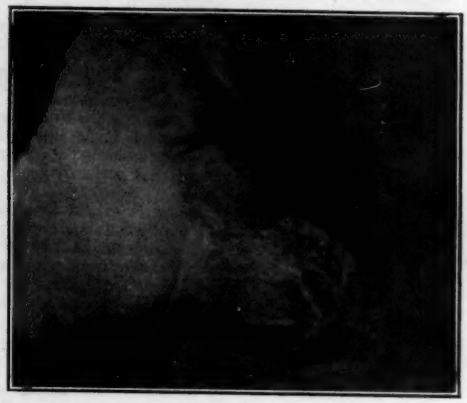


FIG. 2.



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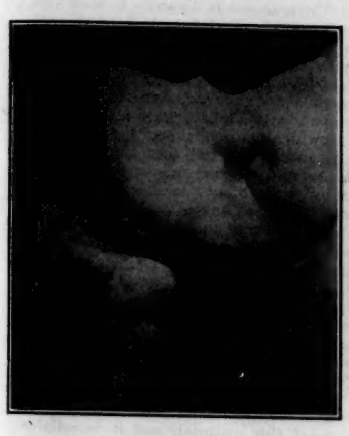

FIG. 4.

FIG. 5.

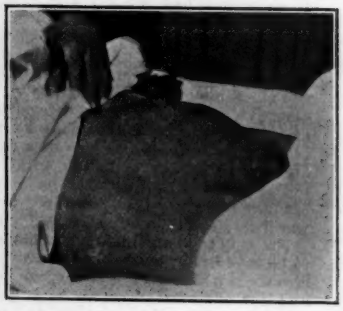

FIG. 6.

FIG. 7.

FIG. 8.

DESCRIPTION OF ILLUSTRATIONS.

FIG. 1.—Hernia following the median incision for removal of ovarian tumour. Umbilical hernia with hydrocele of the sac.

FIG. 2.—Recurrent irreducible ventral hernia. Ovariotomy 25 years ago; operation for hernia 11 years ago.

FIG. 3.—Recurrent ventral hernia.

FIG. 4.—Irreducible recurrent ventral hernia. Commenced after ovariotomy 25 years before.

FIG. 5.—Recurrent ventral hernia, partly reducible. Ovariotomy 25 years ago; operations for hernia 21, 7, and 3 years ago.

FIG. 6.—Ventral hernia, reducible, after operation in 1911 for acute streptococcal peritonitis.

FIG. 7.—Ventral hernia after operation for tubal disease 10 years ago. Edges of opening sutured in layers.

FIG. 8.—Ventral hernia, partly reducible, after operation for suppurative peritonitis.

ducts, and for the treatment of acute suppurative peritonitis in children and young adults; for although such an incision may be followed by hernia, it is not so in every case, and there is less danger of its giving way from strain during after-treatment than if it is made through the linea semilunaris.

If the anterior sheath of the rectus is not restored after these incisions going directly through the muscle, then there will be some bulging of the muscle with consequent weakness of the abdominal wall. It is sometimes mistaken for a paralysis, but the rectus cannot fulfil its functions properly without a sheath, and will act perfectly again after the defect is remedied.

In the majority of patients benefit is gained by a careful course of exercises after all abdominal operations; the danger is still that of keeping them recumbent or fettered by bandages and belts for too long a time. Abdominal hernia may be prevented by appropriate exercises, but it is not of much use prescribing a course of exercises for an irreducible ventral hernia.

ACCURACY OF APPOSITION OF LINE OF SUTURE.

During an abdominal operation in which the linea semilunaris is exposed, it is easy to observe the action of the external oblique, for should the patient make any effort to cough, or vomit, tendinous fibres forming its insertion are pulled upwards and outwards, frequently forming parallel folds which are continuous with the anterior sheath of the rectus. The continued pull of the muscles in the lateral group is strongly backwards, away from the middle line, and if an incision has left any weakness either at linea alba or linea semilunaris the weak incision will be stretched, as these lines are really insertions of the lateral muscles. It is not necessary for the spot to be a large one in the first instance; the omentum seems to have the power of finding the most minute and of dilating it. We owe much to the omentum for the use of its defensive powers against intra-abdominal disease, and perhaps its pushing character and insinuating qualities in cases of a defective abdominal wall are only an effort of nature to give the individual early notice of his danger, so that he may remedy the defect in his armour as soon as possible. Be that as it may, such warnings should not be so frequently neglected.

Not only then are incisions in the median line very liable to be followed by hernial protrusion possibly years later, but also those which have been placed in the linea semilunaris, and for a similar reason—the lateral pull of the muscles which is so difficult to regulate and control. In both these situations there are practically only three layers which prevent a protrusion from forming, and an incision through the middle layer places a weak line through peritoneum and skin, for in the prevention of abdominal hernia the resistance of the skin, and indeed of the peritoneum, may be regarded as non-existent; they are both of them too elastic and easily stretched, even when uninjured, to oppose any sustained pressure. The aponeurotic structures constitute our main reliance, their value after division again depending almost entirely on the accuracy of apposition secured by the method of suturing adopted. If the line of suture is not accurate but irregular, the edges not meeting well, then we must expect to have a weak scar; indeed, the wonder is, not that we occasionally get one, but that we do not get one oftener.

The edges to be joined are commonly so narrow that they can rarely be in perfect apposition over the whole length of the incision. Both this layer and the peritoneum must be sutured with the greatest care, for although we may hold it as a fact that if the aponeurotic layer becomes perfectly united no hernia will develop, should there be any depression in the peritoneal line of suture you may be sure that a piece of omentum will find and insinuate itself into it; by this means, and also as a possible result of the inclusion of a piece of omentum during the process of the insertion of sutures, a great pressure may be exerted on the aponeurotic union at one or more points, one of which may yield.

The tendency to-day, therefore, should be to avoid the linea alba and the linea semilunaris as much as possible, and if it is necessary to open the abdomen in these lines to plan an incision which shall not divide more than is absolutely necessary. Hernias in the semilunar line, the line formerly chosen for Langenbach's incision, will not prove to be easily managed, if of old standing, with contracted muscles posteriorly.

A strong aponeurotic layer is necessary, but the transversalis fascia is also of service, and its accurate union after division will assist in keeping the contents of the abdomen in their proper place. It is sutured with the peritoneum as the innermost layer and as a reinforcement to it; its value is considerable, especially in men in whom the peritoneum does not always stretch or carry sutures with satisfaction. But I do not think that the most accurate apposition of this layer by any method of suturing is calculated to prevent a protrusion taking place unless the line of union is reinforced externally by other structures. If it is possible to place the lines of reunion of the divided tissues so that these lines are not exactly superimposed, the result may be better.

As regards the other positions in which incisions may be made, we cannot over-estimate the great importance of the rectus abdominis, and we should endeavour to preserve it from injury as much as possible. If its fibres have been separated by a blunt instrument instead of having been cut by a knife the resulting union may be less secure, for the parallel bundles of fibres when rolled apart may not unite when placed side by side.

SUTURE MATERIALS AND MODES OF SUTURING.

Dr. W. H. Swaffield has written about the closure of laparotomy wounds as practised in Germany and Austria, giving the opinions of some 55 well-known German and Austrian operators. There is much diversity in their views, both as to the kind of suture and the method of insertion. Some advocate closure of the whole wound in layers, using interrupted sutures in each layer. Some use continuous sutures which are left in, others continuous sutures which can be taken away when they are supposed to have done their work. One even advocates a transverse incision in the skin, the advantage of which is not obvious.

The great variety of suture material that has been introduced to the profession, and recommended for the purpose of suturing abdominal wounds, almost makes one think that more value has been attached to the material of which the suture was made than to the accurate adaptation of the cut edges. Some sutures have been too easily absorbed, others have been too resistant to change, others again have been introduced because it was known that no action of the tissues could affect them, and when their presence has not been resented it has been hoped that they would ensure that security for all time which is obtained whilst the patient is in bed and his wound kept free from any possible strain or adverse influence.

I do not myself use any other material than silk (mostly No. 1) for the suturing of wounds of the abdominal wall; all the buried sutures are of this material, and it is reliable. You can always trust it, and the interrupted silk suture gives me a sense of security which catgut never affords. The only cases in which I have known a bursting open of an abdominal wound after operation during the course of my personal experience has been when I have employed catgut or silk of less strength than that of No. 1. Perhaps I am prejudiced, but I am not alone in my preference for silk, for Sir A. P. Gould, whose experience is a large one, also advocates its use for the deep sutures. As some of you may know, I have advised silk as a routine suture in these cases for many years in the lecture room and in the operation theatre. Kocher asks: "How can people go on using catgut for suturing the wall of the abdomen when Madelung has recorded over 100 cases where the wound has burst open because of it?"

If the surgeon has to operate quickly because of the urgency of the case, then he must insert strong sutures which will include all the layers on both sides of the wound, and there is no material better for this purpose than the larger size fishgut, which is readily sterilised, makes a good knot, and will resist any strain. This necessity for rapid operating is found in cases of the "acute abdomen" in stout adults, when the operation must be rapid to be successful. There is another point in urgent operations for this class of case, and that is, the incision through the semilunaris should be chosen deliberately, as this gives much the least difficulty when it comes to closing the wound and the surgeon is short-handed. The possibility of a hernia after recovery is not worth a moment's consideration in such cases; it can be easily put right by a second operation.

In the ordinary operation, where the surgeon is not hurried, the abdominal wall should be closed in layers; 44 out of the 55 German and Austrian surgeons quoted by

Dr. Swaffield were in favour of this procedure, and it agrees with the experience of most British surgeons.

EARLY OPERATION ON VENTRAL HERNIAS.

The importance of operating early when a wound shows signs of yielding, because of the greater benefit to be derived from the operation when practised on a small hernia, has already been indicated; there is also the smaller risk of an operation in a bad type of patient to be considered, because shock is absent, and the administration of an anæsthetic need not be prolonged or may be employed locally. In bad cases we can use the intravenous infusion of a solution of hedonal.

It must not be forgotten that muscles that have been contracted undergo change, so that after a long interval of time it may be impossible to stretch them to their former length sufficiently to cover the weak place in the abdominal wall. I think this statement particularly applies to the lateral muscles on the spinal side of a hernia after an incision through the upper rectus in an operation for treatment of some hepatic disease.

CHARACTERS OF VENTRAL HERNIAS.

The hernia which occupy the middle line below the umbilicus sometimes assume rather startling proportions, falling down between the thighs and causing distress, both from the dragging of their contents and their occasional disturbances or inflammation. They differ from umbilical hernia inasmuch as they frequently come through more than one opening in the imperfect scar, and are more irregularly lobulated, expanding in all directions on reaching the subcutaneous tissues. You find at the operation one sac but many loculi of varying size, partly concealed in the fatty covering of the abdomen. In most you must, therefore, examine the full length of the former incision. Frequently the skin presents some superficial ulceration or scars indicating the site of former ulcers which have resulted from rubbing by the clothing or truss.

In the hernia which follow incisions for the relief of appendix abscesses, although much may be done to prevent them by the gridiron method, the skin and peritoneum become joined together in a thin cicatricial layer, to which the omentum is often adherent. This covering may be dangerously thin, for sometimes it does not much exceed the thickness of paper. The skin near these scars is often pigmented. Hernia is rare after operations on the kidney by the lumbar route if the incision is made obliquely from above downwards and the fascial planes are sutured after the operation. As the aponeurosis of the external oblique forms the strongest layer in the abdominal wall external to the rectus, incisions should follow the direction of that muscle.

Never cut across muscular fibres unless it is absolutely necessary from the particular needs of the case. Muscular fibres should be separated, not cut. There are nerves also to be considered, and often a little care in the arrangement of a wound will result in the avoidance of any injury to them. In some instances when the fibres of the rectus have been split in the performance of cholecystotomy or gastro-enterostomy, without reference to the position of the nerve, that part of the muscle to the inner side of the incision has undergone atrophy, and a hernia has consequently developed. At Czerny's instance Assmy investigated the after-results of cases in which a wide vertical splitting of the rectus fibres had been performed, and he showed that an atrophy of that part of the muscle dissociated from its nerve-supply always followed.[2]

[2] Moynihan: Abdominal Operations, p. 91.

UNIVERSITY OF SHEFFIELD.—The Council has appointed Mr. Henry Roy Dean, M.A., M.D. Oxon., M.R.C.P. Lond., to the Joseph Hunter chair of Pathology, in place of Professor J. M. Beattie, who has been appointed to the chair of Bacteriology in the University of Liverpool. Dr. Dean is at present Assistant Bacteriologist to the Lister Institute of Preventive Medicine. The Council has also appointed Mr. Leonard Southerns, B.A. Cantab., B.Sc. Lond., to the post of Junior Lecturer and Demonstrator in Physics, vice Dr. J. Robinson, resigned. Mr. Southerns is at present chief assistant at the Eskdalemuir Observatory. Dr. Arthur J. Hall has been appointed Dean of the Faculty of Medicine in place of Professor Beattie.

Abstracts
OF
INTRODUCTORY ADDRESSES, ETC.,
DELIVERED AT THE
MEDICAL SCHOOLS
AT THE
Opening of the Session 1912–13.

THE ROYAL FREE HOSPITAL.

INTRODUCTORY ADDRESS BY DR. JANE WALKER.

AFTER a few preliminary remarks Dr. Jane Walker said:—I take it we all know what we mean when we speak about common sense, but we should find ourselves in rather a tight place if we were compelled to define it narrowly. It is far easier to say what it is *not* than what it is. Common sense implies judgment. Nonsense is what is evidently contrary to right judgment. We all think we possess common sense, but it is really a rare possession. Many enthusiasts that have been called mad in their time and later, have been so filled with common sense that their detractors could not see wood for trees. That was the case of Dr. MacCormac, of Belfast. He practised open-air treatment most successfully, and read a paper on the subject at the Medical Society—a paper that in its sense and modern knowledge might have been read to-day. It is difficult to believe that the meeting passed a vote of censure on it, but such is the case. Again on the same subject was Dr. Boddington, of Sutton Coldfield. He treated patients in the now most approved method of open-air treatment, including one of our latest scientific discoveries. He made his patients get up very early—say 4 to 5 A.M.—and take a walk, and he considered that the early morning hours were productive of the greatest good to them. According to our present knowledge, the opsonic index to tuberculosis is at its highest in the early morning, and so patients, by getting up and taking exercise then, are able to stand a bigger dose of their own tuberculin, and so are direct agents in their own cure. But not only is it in the scientific world that common sense takes such an exalted position that it is deemed worthy of being hounded down; it has been also one of the most striking characteristics of the saints of all ages. In no one perhaps has this been more pronounced than in the case of St. Francis of Assisi. He had large common sense—perhaps the greatest gift of a saint, and if we regard him in his right proportions we cannot fail to realise that he was in the highest sense a great statesman. His dealing with the leper question shows that he was unflaggingly hopeful and bright, realising that human beings are helped more by encouragement than by reproof. All his life and work was animated from start to finish by the common sense and wisdom "which cometh from above." Take just as an example his "Song of all Created Things" from the point of view of us doctors, which, though fantastical and poetical, is full of common sense. Innumerable instances of this glorious common sense might be given were I writing a book instead of giving a brief address. There are, however, two magnificent examples in Surgeon Ambroise Paré and Dr. Samuel Johnson. But for further information on the great surgeon and his doings I would refer you to "Confessio Medici," and in the case of my second instance recommend you to know your Boswell's Johnson. For Johnson was an apostle of common sense.

To turn now to some instances where common sense is mostly conspicuous by its absence. Many of our rules and regulations, both in public life and in our own private concerns, would never be formed if the persons who drew them up had either imagination or common sense. I was struck by this lack of understanding many years ago when travelling in Egypt. While there I visited a good many schools under the guidance of Artin Pasha, who was at that time Minister of Education, and in whose eyes the schools, and the teaching in them, were flawless. I remember listening to one teacher giving a lesson on health and disease, who was carefully teaching the reading of the thermometer by the Fahrenheit scale—a method

only in use in England, and instructing his class most minutely in the diagnosis and treatment of scarlet fever, a disease practically unknown in Egypt. One could not help thinking that the minds of both teachers and pupils might have been better employed. Indeed, instances of lack of common sense in public affairs come tumbling into my mind in overwhelming numbers. For instance, take the case of the mentally defective problem. Are we not just a little lacking in common sense in our dealing with that? Surely our attention ought to be more earnestly directed to the so-called normal people, that they do not tempt their feebler brothers and sisters, who, left alone, would do them little harm. When one reads the flood of literature that is constantly being poured out about the "menace of the feeble-minded," one is tempted to feel that a good deal of it is mere nonsense. "I would rather, if I could choose," said an eloquent speaker at the recent Eugenic Congress held in London, "have a robust burglar for my father than a consumptive bishop." It is an unmixed mercy that such a choice cannot be given, otherwise the nation might be little better than a set of prize animals.

Take our own case, with which we are more especially connected. What is our rôle in life? for what do we exist? Our business is the prevention and cure of disease. Now how do we proceed to carry out the first part of our duty? Clearly we make only the most piecemeal attempts to prevent disease. We allow people to wait till they are really ill, and in many cases past recovery, before we begin to deal with them. We make the patient diagnose his own condition of illness, and come to us, instead of our going to him and hauling out beginning cases of illness into the arena to be forewarned, or treated if necessary. Take the case of a really poor, middle-aged, single woman, who has to keep herself, and to whom the loss of a day's work means something very considerable—it may be, even the loss of her work altogether—at best, a further reduction of her already too small amount of food. What has been, up to the present time, her procedure? She holds on till she can do so no longer (for she cannot afford a doctor), and then she goes to the out-patient department of some hospital humane enough to admit her without a subscriber's letter, and waits for hours in a stuffy, ill-ventilated hall, with dirty, vicious people, afflicted maybe with infectious diseases of various kinds, till her turn comes to be seen, only to be told in so many heart-breaking instances, "It is too late to do more than patch you up," or "The disease is beyond the power of relief by means of operation." Or take the case of a mother belonging to the middle classes of the population, with four children. She has difficulty in making ends meet; she is anxious to give her children the best possible chance in the world, mentally and physically. Such a woman had some difficulty with her throat, for which she was advised to consult a well-known throat specialist, by whom the story was told to me. When he proceeded to examine her throat, he noticed she had something seriously wrong with her eyes, and told her she ought to have them seen to by an ophthalmic surgeon. She said they pained her badly at night, so that she had headaches over her sewing for the children, and that she could not read, but that one of the children had had to have his eyes treated, and that had taken the money she had saved for her own. On further investigation her teeth were found seriously in need of attention, but owing to the same cause they had had to go unstopped and defective. Now there is a case in which our system of medical treatment breaks down. The patient was of such a position that she would have been refused by a hospital almoner, and yet she required medical skill and help, which I maintain we as a nation are shortsighted fools not to see she got. The efficient mother who can make the best of her children is the most important sort of person in the State. Moreover, we wax loud and eloquent over the diminution of the birth-rate, and prate volubly about race suicide and the like, quite forgetting that a nation in a high state of civilisation requires quality, not quantity. The lowest and poorest part of the nation tends to reproduce itself. The lower and poorer people are the more rapidly do they breed. This has been amply proved over and over again, and there is therefore a common-sense reason why they who are low-born should be helped efficiently to climb up. Again, do we not know, with our outer consciousness, that one baby in three dies before it reaches 5 years of age, and yet we make far more fuss over one case of anthrax than over 100 babies that have died from summer diarrhœa owing to bad food and milk. And the worst part of this lack of understanding is, that although fully 90 per cent. of all babies are born healthy, and with an equal start, it is the poor babies that die most, until we reach, in the lowest stratum of the population, a death-rate of 50 per cent. in the first year of life.

I suppose my duties in the deliverance of this address would be but imperfectly fulfilled did I not at least make a semblance of offering some words of advice to those who have the joy of entering these portals for the first time. I am credited with having been found crying bitterly in a corner at 5 years old, and on being asked the reason of my grief, replying, "Auntie says our school days are our happiest days, and I am wondering what the rest of my life is going to be like." Well, that saying is not true; however happy your school days may be there are better things in store—"the best is yet to be" in a very true sense. Not the least of the advantages of growing older is that one expects less of people, and, to quote the immortal Johnson, "are far more ready to call a man a good man upon easier terms than formerly." I do not assume it to be any part of my duty to give you any minute directions as to your work—to write you out a time-table as it were—even were I competent to do so, but it is different in regard to the employment of your leisure time, which, whether it be much or little, we all think we require. We hear a great deal about "all work and no play making Jack a dull boy," but it does not make Jack, or Jill for that matter, dull at his work as a medical student, though it might not assist him with topics which would add to the gaiety of a dinner party. But that is not the business of a medical student. The author of "Confessio Medici" tells of a patient who said to a friend, "I don't want my doctor to talk to me about the National Gallery"—a shrewd saying. Patients want their doctor to have had some one else with just their complaint, only worse, who has got well, and they care far more about that than that the doctor should be an artist of no mean standing or an enthusiastic student of Browning. Medical students have taken the profession of medicine as their life's work. In the case of men it is sometimes rather forced upon them. It is rarely so with women. They still have prejudice at times to get over, and it is still the thing they most desire to do in the world. Let them really treat it as such. Each individual has his or her fatigue curve. Some people work best in spurts, some continuously, but neither should try to imitate the other—we have not worked to the top of our bent unless we are really tired. Cultivate cheerfulness. Laughter is the best cure for hypochondria. Always read something solid and non-ephemeral while you are a student. Be very sparing with newspapers. Read biography, good novels, and some poetry. Dickens is an author all medical students would do well to make a real friend of. He has such a kindly, human, sympathetic way of writing about the poorer classes of the community of whom your patients will be composed. Common sense will help you here. Try to see the poor sick person's point of view. Do not say to a dirty, frowsy old woman from Whitechapel, "Do you take a daily sponge bath, ma'am?" as I heard a young house surgeon say once, but try to look upon the old woman as something more than just a case to be temporarily relieved by a pill, a powder, or even that to her, poor thing, panacea of all evils, the "bottle," which is what she really comes for, and not your advice. But if common sense in dealing with patients is invaluable to you as students, it is absolutely essential when you become practitioners. You must take your patients' circumstances into consideration. Do not prescribe champagne and oysters for a patient whose income is under 30*s.* per week, for she will try to get them, and may succeed; they will not do her much good, and she will request you to allow her account to stand over indefinitely.

There was a very shrewd old doctor at Cambridge, Dr. Bumsted; he is dead now, but were he alive I do not think he would feel I was telling this story against him. On one occasion a certain distinguished person was very ill, and Dr. Bumsted suggested that when he came to London it would be advisable for him to consult a very well-known physician, so that he might be able to mention that distinguished doctor's name when asked who was attending him. When the patient demurred, saying he had

perfect confidence in him, Dr. Bumsted replied, "Yes, my dear sir, but if you say Bumsted is my doctor, they will say, 'Bumsted! Who the devil is Bumsted?'" I need hardly point out the moral of that last story, except that until you are well enough known to be either spoken of by your Christian name or without a prefix, in the case of a distinguished patient, you would do well to imitate Dr. Bumsted.

In conclusion, I will only remind you of the words of Pope:

> Something there is more needful than expense,
> And something previous e'en to taste,—'tis sense,
> Good sense, which only is the gift of Heaven,
> And though no science, fairly worth the seven.

ST. GEORGE'S HOSPITAL.

INTRODUCTORY ADDRESS BY HAROLD B. GRIMSDALE, F.R.C.S. ENG.

IT is reported—I do not know whether the story is authentic—that the great Abernethy, on some occasion similar to the present, greeted the newcomers as follows: "Good God, gentlemen, what is to become of you all." His exclamation showed that even 100 years ago the medical profession, in the opinion of one of its leaders, was over full and not over paid. Unfortunately, perhaps, there is no record available to show what became of his audience; we will assume that they all qualified and lived happily ever after. Certainly his words cannot have been taken much to heart, for the number of medical men in the United Kingdom has increased and gone on increasing ever since. But if Abernethy were here now he would probably repeat his warning in even stronger terms, for in the present conditions, though he must admire your courage, he would doubt the worldly wisdom—I had almost said the sanity—of any man choosing the profession of medicine. Abernethy was playing the part of a cynic; and it may seem to you that there is ample justification for cynicism now when the horizon of our outlook is hidden by clouds, and when it seems that medicine, never a lavish pay-mistress, may be unable to pay her followers what the phrase of the day calls a living wage. Cynicism is easy; we must not give way to it. Therefore, I welcome you who are joining us for the first time; I welcome and congratulate you, and ourselves, because you and we are recruits and fighting men in the great army of healing, whose privilege it is to serve, night and day, suffering men and women; who all must go whenever called, day by day, hopefully, gladly, to fight dirt, disease, and death. And, indeed, the metaphor of the army is hardly a true one, for the doctor must fight his fight alone, unsupported. I see him rather as a knight-errant, setting out in search of high adventure, freeing the prisoners, relieving the oppressed; making the crooked straight, the rough places plain; preparing the way of the Lord. "Madman, tilting at windmills," some may call him; let them; Don Quixote is perhaps the noblest character in fiction. This is the ideal of medicine, and unless in our hearts we recognise this ideal we are not worthy of our great service. You, the new comers, are entering the profession at a moment when it is engaged in a struggle for life. The course of study is more difficult and prolonged, the methods of examination necessary to successful diagnosis and treatment are more laborious and costly, and the competition keener than ever before. Modern methods have advanced so far that it is no longer possible for the general practitioner, however energetic, however capable, to carry out for himself all the investigations needful for diagnosis in certain cases. Medicine is at last, we hope, becoming a science as well as an art.

[Mr. Grimsdale then touched on the injury to the progress of scientific medicine which has been threatened by the passing of the National Insurance Act. He analysed the resistance of the medical profession, and showed that it has not been in their own interests mainly that medical men have joined together, but in the interests of their patients and of the whole future of medicine. In order to explain the fundamental objections of the profession to certain features of the Act he traced back the history of "club practice" to its beginnings, and pointed out the most conspicuous defects of the contract system.]

MIDDLESEX HOSPITAL.

INTRODUCTORY ADDRESS BY W. S. LAZARUS-BARLOW, M.D. CANTAB.

AFTER speaking on the honour done to the hospital during the past year by the visit of Her Majesty the Queen, Dr. Lazarus-Barlow referred to some of the more striking properties of bacteria, radium radiations, and enzymes as illustrative of the "genius of the infinitely little." He pointed out that the very magnitude of the results ensuing from bacterial and enzymic action, for example, frequently obscured recognition of the specific characters of the agents themselves. And yet it was owing to the due performance of its functions by each of the ultimate particles that the final result was due. The living organism in its micro-Lilliputian world, has its special form, its special life-history, its special foods, its special products. We can recognise these by observing the organisms in their myriads in culture tube or hanging drop or stained film. But what is true of the colony is true of the individual, and that diphtheria bacilli cause diphtheria, or that typhoid bacilli cause enteric fever, or that yeast "raises" bread depends upon the fact that each individual of the myriads concerned plays its little part to perfection. In the case of radium radiation, he mentioned the recent discoveries of their action on various biological tissues and fluids and particularly on bacteria which are rapidly destroyed by them. Since bacteria are destroyed by the α and β radiations more rapidly than the cells of the body, he foreshadowed the utilisation of radium in the treatment of bacterial diseases as well as in the treatment of cancer. The last of the infinitely little ones to which Dr. Lazarus-Barlow referred was the group of the so-called enzymes, which bring about the coagulation of blood, the curdling of milk, the breaking-up of fats, the conversion of starch into sugar for animal and vegetable, the digestion of meat, the germination of the seed. In many ways they are the most mysterious agencies with which you will be brought into contact in your studies. Of their constitution nothing is known beyond the fact that they are chemical and non-living, though always owing their existence to the metabolism of living animal or vegetable cells. They have never been isolated in pure form, their activity is bound by a small range of temperature, they are highly susceptible to minute variations of mineral salts, they can be dried without loss of potency. Their action almost seems to be infinite, for they produce immense changes when present in minute quantity—how minute we know not. With their aid the life of every living thing is carried on, and without their aid this earth would be as sterile as the moon. We cannot weigh them, nor see them; what we weigh or see is some inert substance entangled with them. But of nothing in Nature is it more true to say "by their fruits ye shall know them." He concluded with an appeal to the students to follow in the steps of past practitioners of the healing art who manifested the "genius of the infinitely little" by doing their duty always. Thus they would assist in maintaining the high reputation for honour and beneficence which is so liberally accorded to the medical profession by the public.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of the Medical Sickness, Annuity, and Life Assurance Society, was held at 429, Strand, London, W.C., on Sept. 20th. The accounts presented showed that the claims in August were slightly below the expectation, and it is hoped that there will be a still further decrease in this department during the autumn. There are 50 cases of permanent disablement now on the society's books, and these alone account for nearly £5000 per annum in sickness benefit which will continue until age 65 or death previous to that age. It was reported to this meeting that a grant of money had been made to the widow of a deceased member by the Royal Medical Benevolent Fund, to which the society subscribes 100 guineas per annum; also that a son of a deceased member was elected to a foundation scholarship at Epsom College, to which also is subscribed 100 guineas a year, showing that the advantages of membership do not end with the member himself. For prospectus and all further information application may be made to Mr. Bertram Sutton, secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

ACUTE ANTERIOR POLIOMYELITIS:

AN ACCOUNT OF RECENT IMPORTANT EXPERIMENTAL AND EPIDEMIOLOGICAL INVESTIGATIONS IN SWEDEN.

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THE continually increasing tendency of anterior poliomyelitis to manifest itself epidemically is vividly exemplified by the great outbreak which began in Sweden last year, and continuing during the present year with doubled severity, has already far exceeded in magnitude any other known epidemic. During the year 1911, 3840 cases were recognised, and from January to the middle of August of the present year further cases to the number of 1458 have been reported. As the population of Sweden is 5,500,000, the seriousness of the outbreak is apparent. The severity of the epidemic necessitated the institution of experimental and epidemiological researches and the organisation of special hospitals for the treatment both of acute cases and of the resulting paralyses. From the results of these provisional measures much valuable information is now available. The following notes are the results of personal inquiries and of a study of various local reports.

During the last 20 or 30 years epidemics have occurred in many parts of the world; but it is more especially since the year 1905 that individual outbreaks have attained any great dimensions. Reports are available of considerable epidemics in Norway and Sweden, 1905 and 1906; New York, 1907; Massachusetts, 1907, 1908, 1909, and 1910; and Germany, 1909. Great Britain, relatively to the population, hitherto has been very lightly affected by the epidemic disease, although sporadic cases are not infrequent. The principal outbreaks have been those in Devon and Cornwall in 1911, 154 cases; and in the Midlands in 1910, 75 cases. The opinion is held by many medical men, both in England and abroad, that outbreaks of epidemic anterior poliomyelitis will continue to increase in frequency and intensity in the near future.

The two most serious features of epidemic poliomyelitis are its rate of mortality and its capacity for the production of permanent invalidity. The mortality rate varies within wide limits in different epidemics and in different districts, and is especially high in the cases of adolescents and adults, apart from the fact that the latter are so much more liable to attack during epidemics than sporadically. While much of the extensive paralysis characteristic of the acute stage of the more severe types of the disease eventually disappears, and a considerable number of cases improve so much that no really important deficiency in motor power remains, yet few become so completely well as to show absolutely no trace of permanent paralysis, and many attain no better state than that of being more or less permanent invalids.

In previous years Sweden has been visited by several small local outbreaks; but in 1905 in Norway and Sweden occurred the well-known epidemic, consisting in Sweden alone of 1199 cases, and affecting the whole of that country. This epidemic was the largest hitherto recognised anywhere, and its investigation by Wickman did much to elucidate the subject of poliomyelitis. The study of this outbreak led to a recognition of the *abortive* and *meningeal* types, and to a general reclassification, from the clinical aspect, of the various forms of the disease; to the appreciation of the probable importance of abortive cases and healthy carriers of infection in spreading the disease; and to the suspicion of the contagiousness of the affection. During the years subsequent to this epidemic smaller outbreaks occurred from time to time; but the incidence of the disease gradually decreased until the late spring of 1911, when a rapid increase began to take place. Thereupon the epidemic rapidly progressed, and in September alone, the worst month, nearly 1100 cases were reported. In the winter, as usual in epidemic poliomyelitis, the severity lessened, and continued in moderate degree until June of the present year, when another exacerbation took place, and the epidemic became once more very severe; so much so, that in July and August twice or three times as many cases occurred as in the corresponding months of last year. Thus during the last 20 months considerably more than 5000 cases have been recognised. Granting that the great interest in this disease shown of late years by both the medical profession and general public in Sweden has accounted for the recognition and inclusion in the figures for the epidemic of 1911–12 of many so-called abortive cases, the diagnosis of which would not otherwise have been made but for their association in the epidemic with the clinically more obvious types of the disease, yet the figures given below show an enormous absolute increase of cases in 1911–12, as compared with the epidemic of 1905, since 60 per cent. or more of all the reported cases have been of the paralytic type.

Statistics for the whole of Sweden are not yet available, but from one county alone, that most severely affected, and with a population of 216,000, 1065 cases are reported for the year 1911. Interesting details of age, paralysis, and mortality incidence in this series of cases are apparent from the following statistics:—

Age.	Total cases.	Percentage mortality.	Percentage of cases with paralysis.	Percentage of cases with continued paralysis.	Percentage of cases with severe continued paralysis.
Up to 3 years ...	162	14	78	36	30
3 to 6 ,, ...	217	6	61	29	17
6 to 9 ,, ...	157	8	57	27	17
9 to 12 ,, ...	120	12	54	22	10
12 to 15 ,, ...	79	9	51	22	13
15 to 30 ,, ...	242	17	65	22	9
Over 30 years ...	75	17	49	11	4
Unknown... ...	13	—	—	—	—
	1065	12	61	25	15

By *paralysis* in the above table is meant all cases exhibiting paralysis in the acute stage of the illness; by *continued paralysis* those showing paralysis several months after the illness; and by *severe continued paralysis* those afflicted to such a degree that the wage-earning capacity must be materially diminished, or, in children, a corresponding functional defect. That the figures for the younger children are relatively higher is probably due to the difficulty in recognising abortive cases among those so young.

The deaths—total 124—occurred as follows: 14 on the first or second days, 13 on the third or fourth days, 34 on the fifth to seventh days, 26 in the second week, 6 in the third week, 7 later than the third week, and the remaining 24 unknown. Death in the early stage was, as a rule, due to paralysis of the respiratory muscles; in the later stages to pneumonia. The distribution of the paralyses in 157 of the *severe continued* cases was:

One lower limb	47	One arm and one lower limb ...	9
Both lower limbs...	37	Three limbs	8
One arm	25	All limbs...	5
Both arms	9	Leg and foot	17

The epidemic began in this county in the latter half of June, 1911, and gradually increased until the end of August; it then steadily decreased, and became extinct in March, 1912. The distribution in families, as far as known, occurred thus:

Cases in each family ...	1	...	2	...	3	...	4	...	5	...	6	...	7	... 8
Number of families ...	456	...	93	...	46	...	21	...	8	...	2	...	1	... 2

In 31 families two to four cases occurred on the same day. During the present year only 21 cases have been recognised in this county, which was so devastated last year, and which is about 100 miles long and 50 wide.

A more general survey of the epidemic as it affected five other counties, in which it was severe, and including in these alone another 1200 cases, presents some points of interest on account of the varied experiences in the several counties. The mortality was found to vary from 10 to 26 per cent.; abortive cases formed from 33 to 50 per cent. of the total; and paralysis was permanent in 12 to 45 per cent. of those surviving. It was a general experience to find the cases grouped together, forming larger or smaller foci, with smaller groupings within these, and with spreading occurring in a radial direction from these centres. The separate outbreaks occurred in most mysterious and varying

ways. In many cases it was quite impossible to show any connexion between new outbreaks and those previously existing. In some places the infection seemed to have followed the railway and high roads, but in other districts no such tendency seemed to exist; even though it might be supposed to have been brought to a district by the railway, yet within such a district a branching railway system seemed not further to assist in the distribution. Contact infection, while serving to explain the occurrence within families, and at times within small communities, absolutely failed to explain the origin of the more distant and separated outbreaks. The epidemic very frequently showed a violent tendency to attack small isolated villages in wooded country, while sparing larger industrial centres in which housing was cramped and sanitation unsound. At times solitary cases would occur and not be followed by new cases, although isolation might be defective; in other places connexion between the different cases could not be shown, and it was noted that persons who appeared most likely to be infected escaped, while others in the near surroundings were attacked. No infection through milk or dead matter could be traced. Cases occurring by direct contact and through the agency of healthy intermediary persons were noticed, but on the whole direct contact infection was very much less common, and in many places rare. It occurred on many occasions that families with many children were visited by the epidemic, but as a rule with only one case resulting in the family, in spite of deficient isolation and disinfection; on the other hand, in other places many members of the same family sickened, and all who came in contact with the patient were attacked. The transmission from one family to another in places could not be traced; in others it was obvious, but always by the intermediation of healthy people; in still a few other districts the possibility of direct transmission existed. Transmission through schools was very infrequent and in public institutions for children practically no cases occurred.

It was noted how much the spread of anterior poliomyelitis differed from that of the more common infectious diseases, in which the source of origin can be so frequently recognised, and in which direct transmission is usual, and to explain the difference it is assumed that man in general is rather immune to poliomyelitis, and that the explanation of the variability of the occurrence of the epidemic in different districts possibly is to be found in this immunity, and in the changing virulence of the virus. It was noted also that in anterior poliomyelitis the contagiousness seemed to be greatest in the period of incubation, given as being one to one and a half weeks, and in the earliest days of the illness, and that abortive cases were rather contagious, while the developed cases, as opposed to the more common infectious fevers, showed little or no tendency to spread the infection. Again, the early isolation of the cases and the disinfection of the houses, usually efficacious in diphtheria and scarlet fever, have not shown the same effect in checking the disease, although these prophylactic measures were always undertaken immediately after the case became known, and although the general public have frequently done their utmost in assisting the isolating measures, and been particularly anxious to avoid contact with persons from districts where the disease was active.

As regards the physical conditions obtaining in the affected areas, in addition to the proclivity of the epidemic to attack remote villages in woodland districts, it has been observed that the outbreak generally appeared in dry positions, while marshy districts remained free; in some places it quite ceased after a few days of frost and snow. Those chiefly attacked in the country were the families of small farmers and labourers. While it is maintained in some directions that the affection was largely a proletarian disease, and was usually associated with conditions of severely congested housing of the poor and with other sanitary deficiencies, and that also personal hygiene in the affected parts was perhaps even lower than that usually obtaining among the working classes, yet the experience in other districts was quite the reverse. In the latter it was found that the great majority of homes affected by the epidemic were, in hygienic respects, well conducted; again, in other districts congestion and bad hygiene definitely did not further the spread of the infection.

Much variation occurred also in the clinical manifestations appearing in different districts. The more constant initial symptoms were fever, apathy, rigidity of the neck, more or less severe pain in various parts of the body, general hyperæsthesia, headache, and sweating; catarrhal symptoms, especially bronchitis, were rare; slight gastro-intestinal symptoms were fairly common. Frequently noticed as a first sign of the illness were pain and tenderness in the throat and neck. At first this was purely subjective, and nothing objective could be determined; later occurred a fulness in the neck with swelling of the tonsils and pharynx, but without membrane formation or catarrhal changes; the mucous membrane of the pharynx was dry, glossy, and of cyanotic hue, depending on a stasis which probably arose as the result of the inflamed lymphatic tissues, or of the rigid neck muscles exercising pressure on the cervical veins and lymphatics. Abortive cases usually gave the picture of a general infection, at times also with rigidity of the neck, gastro-intestinal symptoms, pain in the body and limbs, and diminished reflexes.

In the majority of fatal cases death resulted from paralysis of the muscles of respiration, occurring in many cases in the course of an ascending, or Landry, type; in others there was earlier paralysis of respiration, and in some it occurred so early that no other paralysis was apparent.

In treatment urotropine was extensively used in the earlier stages of the illness. Various opinions exist as to its efficacy. On the one hand, it is held that the drug neither appears to prevent the onset of paralysis nor hastens the recovery of already diminished functional power. As opposed to this view, several observers think urotropine has a favourable influence in the avoidance of paralysis if given in large doses in the very earliest stages of the acute disease, but otherwise has no effect on the course of the illness. Peroxide of hydrogen preparations were extensively used for the disinfection of the nasal and pharyngeal cavities.

The prophylactic measures consisted in sending the patient, whenever possible, to an infectious diseases hospital, and it was necessary to improvise many such institutions; here the patients stayed for four weeks from the date of onset of the illness. It is believed that, for practical purposes, the patient need not be considered infective after this time has elapsed. The patient's home was radically disinfected as soon as possible; in some cases, when the necessity arose, in the middle of the night. The infected family was isolated for two or three weeks. In those cases where the patient could not be sent to an isolation hospital a nurse was stationed in the house, and the whole family and premises isolated; the nurse not only watched the cases and carried out the disinfecting measures, but also looked to the personal hygiene and sanitary arrangements of the family. In such infected families both patients and healthy members were treated with urotropine and naso-pharyngeal antiseptics. These measures were considered to have some success, and severe outbreaks were often quickly suppressed. All unnecessary meetings of the people, such as dances, feasts, markets, and schools, were prohibited, and in places even the assizes were postponed.

It is considered that the transmission of epidemic poliomyelitis is only apparently different from that of the more common infectious fevers, if the existence of a rather general immunity in man be granted. A direct transmission occurs from person to person, but a susceptible individual is met with only in relatively exceptional cases, and usually only after the infection has been transmitted through one or more healthy members in the series. If so many people can carry the infection without becoming ill, it tends to explain the apparent inefficacy of measures which aim at isolating only the patient. Since those healthy members of the patient's family who remain at home are, as regards carrying the infection, as dangerous as the patient himself, it follows that the whole infected family must be isolated and observed before contact with others is allowed.

The first general administrative measure taken in the effort to combat the epidemic was a free circularising of "information and advice" throughout the country, giving a short account of the disease, and of the essential prophylactic methods; also the bacteriological department of the State medical institute, under the control of Professor A. Pettersson, was commissioned to institute extensive experimental investigations. Later in the year arose the question of the treatment of cases with permanent paralysis. Many patients were in need of special orthopædic treatment during the lengthy stage of repair following the acute illness.

Having been discharged early from the isolation hospitals, the majority lay at home without treatment, as it was quite impossible to keep them for the necessary length of time in the ordinary provincial hospitals. Considering how critical this repair stage was, with regard to the origin of contractures and the production of permanent invalidity, and how important it was that the patient should remain under medical care, it was thought advisable to issue circulars to all medical men, inviting them to direct their attention to this matter. In this circular was emphasised the simplicity and value of early treatment in the prevention of contractures, that invalidity was much less the direct result of the paralyses than of these preventable multiple contractures, and that the utility of the affected individual to the community on the one hand, or his complete incapacity as a wage-earner on the other, depended largely on his power of independent movement. If those more severely affected could remain for sufficient time under medical care, it would not be difficult to prevent, at first by the simplest massage and gymnastic movements, and later by more or less provisional apparatus, the origin of such disastrous contractures.

Early in 1912 two orthopædic surgeons were sent into the most affected districts to investigate all cases of permanent paralysis and to collect information relative to the proposed organisation of special hospitals. Two such provisional institutions, each with 60 beds, were established for ten months only, beginning in March, 1912, to treat severe paralytic cases; in July it was found necessary to increase the capacity of each to 100 beds. In one of these hospitals 230 cases had been treated during the first six months. A more detailed description of the special orthopædic work in these provisional paralytic hospitals and an account of their administration must for the present be omitted. The continuation of the necessary orthopædic treatment after the close of the year 1912 will be provided for by the reorganisation of the existing cripple schools, and by the addition to these of a large out-patient department and also accommodation for in-patients.

No experimental investigations of anterior poliomyelitis had previously been made in Sweden. Professor Pettersson has been assisted in his work by Dr. K. Kling and Dr. W. Wernstedt, and to these observers the writer is indebted for permission to give an account of their important results, which, hitherto in great part unpublished, were communicated in detail to the Fifteenth International Congress on Hygiene and Demography at Washington, Sept. 23rd to 28th, 1912. With these, as with other experimenters, cultural methods were negative, and the investigations were mostly made by inoculation of monkeys. The main object of the research was the determination of the means of communication of the disease in man, the seats of entrance and exit of the virus, and the cause of variability in its degree of infectivity.

The infectivity of poliomyelitis had already been established. With the discovery of abortive cases, multiple cases in houses, and propagation through the agency of schools, epidemiologists had assumed direct transmission from person to person as the principal means of infection, and had supposed also transmission by healthy persons or carriers in the explanation of the occurrence of cases in spots apparently isolated from the main epidemic centres. Neutralisation-inoculation tests had confirmed the nature of abortive cases, but the evidence of the existence of the healthy intermediary was only circumstantial. Gastro-intestinal symptoms in the acute stage, and post-mortem appearances in fatal cases, suggested the intestine as the seat of entrance of the virus, but the naso-pharyngeal region was considered to be of greater importance in this respect, although animal experiments pointed to the possibility of infection by both these routes. Again, the demonstration of the presence of the virus in the nasal and pharyngeal mucous membranes, and in the salivary and lymphatic glands connected therewith, in monkeys after intracerebral inoculation, and in man in fatal cases, suggested the naso-pharynx as a seat of exit.

How, and to what extent, the patient himself, both in the acute and convalescent stages, transmitted the infection was unknown, as the secretions from the nose, mouth, pharynx, trachea, and intestine had hitherto not been shown to be infective. Many investigators had repeatedly endeavoured to demonstrate the infectivity of these secretions, but had completely failed in the attempt. Kling, Pettersson, and Wernstedt first investigated these secretions in two series of *acute cases*. The first series consisted of 14 fatal cases, examined immediately after death. The secretion collected from the naso-pharynx was infective in 7 cases out of 11 examined, that of the trachea in 8 out of 10, and of the small intestine in 8 out of 11 cases. The second series consisted of 12 cases of various degrees of severity, and in which the clinical diagnosis was certain, examined in the acute stage during life. The tracheal secretion was not examined because of the difficulty in obtaining it, and the large intestine was investigated by rectal saline wash-out instead of the ileum. The naso-pharyngeal secretion was found to be infective in 7 cases out of 12 examined, and that of the large intestine in 8 out of 11 cases. Thus, in one fatal case and in one living patient no secretion could be found to be infective, but in the remaining 24 out of the total 26 acute cases the virus was shown to be present in at least one secretion in each case. Considering that the infection of a monkey with poliomyelitis can be notoriously difficult, the investigators conclude that all such secretions in the acute stage are infective.

After investigating the secretions of people who had died from acute poliomyelitis and of patients who were acutely ill, two series of *abortive cases* were examined. In one series the cases had been in the immediate vicinity of patients at the time acutely affected with the paralytic type of the disease. Of three families, in each of which existed another member suffering from the paralytic type, two possessed each 2 abortive cases, and the third family, 1; the naso-pharyngeal secretion of one abortive case in each family was examined and shown to be infective. The other series consisted of abortive cases which, as far as could be ascertained, had had no contact with cases of the paralytic type. Of three families the first possessed 4 abortive cases. The naso-pharyngeal secretions of all four were examined, but only one could be shown to be infective; the remaining two families had each one abortive case, and the naso-pharyngeal secretion of each was infective. Similar investigations were then carried out on absolutely *healthy persons*, who had recently been in the surroundings of cases acutely ill with the paralytic type. Six families were selected, each of which possessed one member suffering from the typical disease. The secretions of the naso-pharynx and large intestine were infective in 3 healthy members of each of two families, in 2 members of another family, and in 1 of each of the remaining three families.

The important question of the *length of time after the acute stage had elapsed during which the patient could possibly be a source of infection* was elucidated by further investigations on the 9 survivors of the series of 12 cases mentioned above, whose naso-pharyngeal and large intestine secretions had been examined in the acute stage. These patients were investigated on several occasions at varying intervals of time during the convalescent stage. The naso-pharyngeal secretion of one case was still infective seven months after the date of onset of the illness; both naso-pharyngeal and bowel secretions were infective in another case after five months; three other cases after four months. In one case only could neither secretion be shown to be infective after the short interval of one month from the date of onset of the disease.

The secretions were collected and examined by washing the mucous surfaces with normal saline solution, passing the washing so obtained through the Heim asbestos filter, and injecting simultaneously, in most cases large quantities, 50 to 150 cubic centimetres, into the peritoneal cavity of the monkey, and 1 to 2 cubic centimetres into one sciatic nerve. While previous experimenters had found it quite impossible to demonstrate the infectivity of these secretions, the Swedish investigators have had no difficulty whatever in making this important observation. They believe the explanation is to be found partly in the fact that large quantities of saline washing were injected, and partly in the use of the Heim filter, which, while efficiently separating off all adventitious micro-organisms, nevertheless seems not to hold up, or diminish in any way, the amount of the poliomyelitis virus in the solution, as, apparently, the more generally used filters, such as the Berkefeld and Chamberland, are disposed to do; but the principal reason, they think, is that they have been able to secure a particularly virulent strain of the virus.

These experimental results strongly support the theory of

direct transmission of poliomyelitis from one person to another. The patient himself in the acute stage is a potent source of infection, and he remains so during the convalescent stage; three fatal cases of direct infection of nurses by patients acutely ill have been collected by Dr. A. Josefson. The existence of carriers is now for the first time experimentally established, as is also the fact that both carriers and abortive cases are very much more numerous than the typically paralytic cases. Professor Pettersson suggests that poliomyelitis in its abortive form is a far commoner affection of childhood than hitherto suspected, and that there probably exists, more especially in the large towns, a non-malignant strain of virus in widespread distribution. Inoculation experiments show that suspected abortive cases may carry the infection, but do not prove that the illness is poliomyelitis; for the latter the "neutralisation test" is required. From the fact that carriers receive the virus upon their naso-pharyngeal mucous membranes from the external surroundings, probably by means of infective secretions, presumably the affected individuals have received the virus in the same way, and hence the view of the naso-pharyngeal seat of entrance of the infection receives strong support.

While attaching far more importance to direct transmission and to the naso-pharynx as the seat of entrance, opinion in Sweden admits the possibility of indirect transmission of infection by insects and inanimate objects. Inoculation experiments with saline infusion of flies, caught by poliomyelitis patients in the epidemic wards, were negative, as were also those with fleas taken from houses wherein dwelt patients acutely ill with poliomyelitis or collected after parasitic existence on an infected monkey. On the other hand, Josefson produced experimental poliomyelitis with saline extracts of a handkerchief and embroidery work, which had been used by patients acutely ill, even after the material had been allowed to dry for some days before making the extract. These facts are in keeping with previous observations by other investigators, that the virus could be found in dust, and remain active after 31 days in sterile milk. The Swedish investigators think that fleas and other blood-sucking insects can be of importance in house epidemics, but play no great part in the production of extensive outbreaks. It is also considered that the frequency of the virus in the intestine is largely due to the swallowing of the infected naso-pharyngeal secretion. Flexner supports this view by proving the capacity of the virus to withstand the antiseptic action of the gastric juice. It follows that prophylactic measures, as well as being directed towards the naso-pharynx, must include the sterilisation of the patient's motions. Although convalescents remain infective so long, yet evidences of great decrease in the virulence of the secretions occur early, and it is deemed sufficient to isolate the patient for two or three weeks after the acute stage is over.

The pathological changes, both in the spinal cord in monkeys and in the structures regarded as the seats of entrance of the virus in human beings, have been closely studied. The spinal cords of fatal human cases have not so often been examined by the Swedish investigators as those of monkeys, but the investigations made have shown the existence of the usually described characteristic changes: infiltration of the pia mater with mononuclear cells, collections of similar cells around the vessels of both white and grey matter, and both diffused and circumscribed cell-infiltrations in the grey matter; various stages of degeneration of the nerve cells; and leucocyte-neuronophagia, or infiltration of the nerve cells with polymorphonuclear and mononuclear (polyblast) cells. With these changes also went at times those less characteristic: hyperæmia, hæmorrhages, and œdema.

This histological picture, in which cell-infiltration is the most characteristic change, and which is commonly seen in the spinal cord of a human being who has died as the result of poliomyelitis, can occur also in the infected monkey, and is named the *infiltrative* variety of change in contradistinction to another type of change which is found much more commonly in, and possibly is peculiar to, the infected monkey. In this second type, the *degenerative* variety, the most characteristic feature observed is the degeneration of the nerve cells and not cell-infiltration, which is most often entirely absent. All degrees of degeneration of the nerve cell can be seen at different times, and most frequently there co-exists with this nerve cell degeneration a marked alteration in the neuroglia cells, which become swollen, transparent, and with the glial cell processes indiscernible. Further, many of the degenerated nerve cells are seen to be surrounded by these altered glial cells, which seem to be eating their way into the nerve cell, just as an osteoclast cell erodes the surface of bone. This process Professor Pettersson describes as "neuroglia-neuronophagia" in contradistinction to the better-known "leucocyte-neuronophagia" so often seen in association with the infiltrative variety.

Because of the existence of this more degenerative type of histological change in the spinal cords of monkeys which have clinically shown undoubted symptoms of poliomyelitis, and on account of many facts, briefly referred to below, revealing the close association of this type of change with that of the more generally recognised infiltrative variety, these investigators believe that degenerative changes in the nerve cells, together with glial-cell hypertrophy and glial-neuronophagia, are also as characteristic of the effect of the virus of poliomyelitis as are infiltration and leucocyte-neuronophagia. As supporting this view, it has been noted that the same inoculable material may produce the infiltrative variety in one monkey and the degenerative in another. Again, emulsion of spinal cord from a fatal human case has often produced the degenerative variety in one monkey, while the secretion from a mucous surface has given infiltration and leucocyte-neuronophagia in another monkey. Spinal cord emulsion from a monkey showing only the degenerative variety can produce infiltration and leucocyte-neuronophagia when inoculated into a control monkey, and, as a rule, "passage virus" always tends to produce the infiltrative change. Some microscopical sections of spinal cord have shown infiltrative changes, but accompanied by glial-cell neuronophagia instead of by leucocyte-neuronophagia. It has also been noted that the inoculation of secretion collected in the acute stage from a human being affected with the disease gave the infiltrative variety, while that collected some months later from the now convalescent patient gave the degenerative type. The cords of monkeys inoculated with secretions from abortive and convalescent cases and from carriers almost always present the degenerative picture, while those from monkeys inoculated with secretions from acute cases or from the spinal cords of fatal cases, although in many instances revealing the degenerative variety, yet in a large proportion show the infiltrative type.

The clinical picture most often presented by monkeys infected with poliomyelitis is that of general muscular weakness with paresis, rather than one of local flaccid paralyses. The former condition is almost always associated with the degenerative variety of changes in the spinal cord, and this association frequently results from inoculation with secretions from abortive and convalescent cases and from carriers, and is probably significant of a diminished virulence. On the other hand, the condition of local flaccid paralyses more often follows the inoculation of secretions from acute cases, is frequently accompanied by the infiltrative change, and is, perhaps, the expression of a higher degree of virulence of the virus.

Much difference of opinion has hitherto existed as to the explanation of the pathological processes occurring in the spinal cord in anterior poliomyelitis, especially in regard to the structural elements primarily or principally attacked by the virus. On the one hand, Charcot believed that the nerve cells were primarily affected. Later, Leiner and von Wiesner held that degeneration of the nerve-cells always preceded the cellular infiltration. Still other observers consider that the products of degeneration of the nerve cells produce the round-celled infiltration. On the other hand, Strauss, Wickman, and others think that the virus acts on the vessels of the spinal cord, and the resulting infiltration brings about secondary nutritional changes, and eventually degeneration, in the nerve cells. The Swedish observers agree with Wickman, that in man considerable infiltration can occur with only the slightest signs of nerve cell degeneration. In monkeys, however, with the cellular infiltration there always exists marked degeneration of the nerve cells. Again, since cellular infiltration is so frequently absent, it is obvious that the virus can directly act on the nerve cells and cause their degeneration, and thus it cannot be held that the products of cell degeneration produce a secondary cell-infiltration. Therefore they believe

the virus can act directly on both vessels and nerve cells, producing definite pathological alterations in each, the one or the other effect preponderating. The action of the neuroglia cells on the motor nerve cells in glial-neuronophagia is possibly the result of an enzyme action, and thus probably different from the ordinary phagocytic activity of the mononuclear polyblasts in the leucocyte-neuronophagia.

Histological researches upon the tonsils, submaxillary salivary glands, trachea, intestine, and mesenteric glands, in fatal cases of poliomyelitis in man, showed in general a great prevalence of lymphoid tissue and infiltration with lymphoid cells. The investigators are disposed to believe these changes are pathological, and due to the specific effect of the virus. Thus they do not agree with von Wiesner, who suggests that it may be possible that persons possessing a tendency to hypertrophy of lymphatic tissues are prone to infection with poliomyelitis. They have noted in several cases a desquamative catarrhal tracheitis, in which no polymorphonuclear cells were present, but instead a marked infiltration with mononuclear lymphocytes, suggesting that catarrhal inflammation in the air passages in poliomyelitis is a specific effect of the virus, and not due to secondary infection.

Dr. Wernstedt's survey of the geographical distribution of the outbreak of 1911, and his comparison of this with the topographical features presented by the well-known epidemic of 1905, have yielded useful information. The epidemic began early in April, 1911, simultaneously in four districts situated widely apart; three of these were in the country in the north of Sweden and the fourth in Stockholm. It has been impossible to establish any common source of infection from which these centres developed, and it is believed that the infection had survived from year to year since 1905, and acquired a widespread distribution. From these four original foci the epidemic soon involved large parts of the interior of Northern, Central, and Southern Sweden, together with the counties of the eastern coast, but the southern and western counties were comparatively spared. The maximum number of cases per month occurred in September. In 1911 many exceptions occurred to the general law that epidemic poliomyelitis prefers places lying far away from the populous centres. In 1905 only 7 per cent. of the cases occurred in the towns, and these only as scattered cases; Stockholm, for example, only showed 10 cases. But in 1911 25 per cent. of the cases occurred in the towns, and Stockholm and Gothenburg, the two largest cities, produced 200 and 100 cases respectively. A similar state of things obtained in many of the smaller towns. In Stockholm, although 200 cases occurred in 1911, in the present year, up to August 15th, only 19 cases have been notified. A greater proportion of people have been attacked in the small and middle-sized towns than in the larger. Generally averaged, in 1911 the country districts and towns were affected in like degree, but in those areas more severely involved it was found that, just as in 1905, the disease attacked a greater number of people living in the country than in the towns, although the difference in favour of the townsfolk was considerably less than in the earlier epidemic.

As regards general distribution, the cases were collected into four or five large foci which extended peripherally. The largest of these, beginning in June, eventually extended into several counties, and embraced 1300 cases, but by the end of September had become quite extinguished in the town from which it originated, although continuing to extend actively at its periphery until December. The epidemic continues in 1912 to involve new districts, while those affected so severely last year are being spared.

The following facts were revealed by a comparison of the topographical distribution of the main foci of the disease in the epidemics of 1905 and 1911. 1. All the districts adjoining those most severely affected in 1905 were ravaged by the 1911 epidemic. The greater part of the 1911 epidemic occurred in such districts, although there were some scattered collections which lay apart from the sites of the great foci of 1905. 2. Districts spared by the 1905 epidemic were severely affected by that of 1911, which, in turn, spared those ravaged in 1905.

Some of the sites of the centres of 1905 were in 1911 completely surrounded by areas in which the epidemic was very active, and yet they remained untouched. Some districts appear at the first sight to have been severely affected by both epidemics, but on closer examination the above facts are found to hold in this case for the various subdivisions of such a district. Why the outbreak in one district seems to predispose the immediate neighbouring areas to an attack in a subsequent epidemic remains for the present unanswered. No tendency to biennial periodicity of occurrence in any one district, as was observed by Lovett and Richardson in their study of the Massachusetts epidemics of the years 1907–1910, could be detected. It appears from the above observations that districts which have once been severely affected have all prospects of escaping another severe outbreak, even though many years may have elapsed.

The exemption of the old centres during subsequent epidemic is explained on the supposition of the existence of a widespread acquired immunity within these centres; in other words, that almost the entire population in the district is immune, in spite of an interval of five years elapsing between the two outbreaks, and in spite of the fact that in 1905 relatively only a small proportion of the inhabitants in the most affected areas was attacked. This assumption cannot be made merely on the fact that in such a large country as Sweden different areas are involved in successive epidemics, but the intimate proximity of the areas respectively attacked in the two epidemics renders it very probable. The experimental investigations above alluded to establish the opinion of Wickman, of the extreme prevalency of abortive cases and healthy persons who carry the infection, and they make it certain that such carriers are, at the very lowest estimate, four or five times as numerous as cases showing definite paralyses. It follows from this that natural susceptibility to epidemic poliomyelitis must be small. Hence, according to Kling, Pettersson, and Wernstedt, there must live in such previously affected districts a very great number of people who either have suffered from the abortive form of the disease, acquired at the epidemic's previous visitation, or possess a natural immunity, as evidenced by the frequency of carriers. The chief bearers of infection into such a previously affected area from surrounding districts where the disease is now rife are most probably these previously immunised adults. These, however, are naturally ill adapted to convey any virulent contagion to the children who, having been born in the interval between the epidemic manifestations, are presumably the least immunised individuals in this previously ravaged districts; it can also be supposed that the children have to some extent inherited an immunity. It appears, therefore, that children and others who have not acquired an immunity are less liable to be brought in contact with a virulent and highly infective virus than those living in districts which have not previously experienced an epidemic.

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THE RELATION OF THE GASTRIC SECRETION TO RHEUMATOID ARTHRITIS.

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THE relation to rheumatoid arthritis of some focus of pyogenic infection is regarded in many cases as indisputable. Among the many sources, oral sepsis undoubtedly holds the first place. Although a septic condition certainly plays some part, it is often difficult to reconcile the absence of rheumatoid arthritis in many conditions apparently favourable to its production, conditions resembling in all respects those in which the joint affections have supervened. The present paper is the result of an attempt to reconcile this anomaly. Although only a preliminary announcement, the results upon which it is based are so striking that publication appeared to be fully justified. It is intended later to publish the results of observation of a larger number of cases.

The failure of alkalies to improve the joint affections in rheumatoid arthritis, although markedly successful in acute rheumatism, was noted by the earliest observers. It seemed

possible that the absence of hydrochloric acid in the gastric secretion of one class—hydrochloric acid being well known as a potent germicide—might explain the demarcation between cases with an apparently similar degree of pyogenic infection. This suggested as a line of investigation the examination of the stomach contents after the administration of a test-meal.

Ten typical cases of chronic rheumatoid arthritis were selected. Ewald's test-meal, consisting of a piece of dry toast with one pint of weak tea without either sugar or milk, was given fasting, and the stomach contents were removed by a Señorans evacuator one hour later. It will be observed from Table I. that in all cases the amount of free hydrochloric acid and the digestive properties were markedly below normal, and in some cases almost entirely absent. In the absence of signs and symptoms malignant disease of the stomach could be excluded. The existence of this feature constantly in nine cases justifies the expectation that it will be found in almost every case of rheumatoid arthritis similarly investigated. Apart from the circumstance that in many cases an obvious septic focus—e.g., carious teeth—is at hand, the *onus probandi*, the identification of the source of sepsis, does not appear to be essential, since opportunities for the introduction of pyogenic micro-organisms into the body are manifold and insidious. It must be clearly understood, however, that it is not intended to suggest that the obvious source of infection should not be rigorously treated. The absence of hydrochloric acid, &c., also explains the frequency with which dyspepsia is encountered in cases of rheumatoid arthritis. The lines of treatment adopted as a natural sequence were to remedy the defect in the gastric secretion, and although these have only been employed for a short period of time, the results have so far been encouraging. This scheme of treatment, whilst it will if successful tend to destroy the *causa causans*, obviously will not affect the results already existing from previous infection, and it is therefore advisable to employ in addition those methods which have previously been found to be of service.

Treatment of any chronic condition is likely to produce deceptive results. On the one hand, the chronicity of the disease may be a bar to the efficiency of any treatment unless carried out for a prolonged period; on the other hand, there is a tendency for sufferers to welcome a new treatment and to speak too optimistically of its effect. It is therefore with caution that we have received the information that not only were the dyspeptic symptoms ameliorated, but that the articular pains had entirely, or to a large extent, disappeared; and it is with deference that we mention these statements. In no case have we so far observed any evidence of diminution in the size of the joint swellings. In effect we do not wish to lay stress on the plan of treatment laid out below, but rather upon the striking character of the gastric secretions and the large field of possible treatment to be evolved by deduction. We have employed the following prescription:—

℞	Ac. hydroch. dil.	♏ v.
	Glycerin. pepsin	♏ xx.
	Ol. caryophylli	♏ i.
	Tr. quillaiæ	♏ xx.
	Aq. anisi	ad ℥ ss.

Sig. t.d.s.

The oleum caryophylli is added as a carminative and a powerful antiseptic. In all cases the patient had undergone the routine methods of treatment—viz., administration of potassium iodide, guaiacol carbonate, cod-liver oil, with local applications of liniments, hot-air baths, electricity, removal of carious teeth, and so on, in most cases without marked improvement. We give brief histories of the cases investigated and tables of the chemical examinations made.

CASE 1.—Female, aged 50. Painful swellings of elbows, wrists, and fingers of both hands for 12 months. No oral sepsis; all teeth extracted some years ago. Administration of acid mixture for three weeks. She thinks she is "a little better."

CASE 2.—Female, aged 25. Joints of right hand, left elbow, and right wrist affected for three and a half years. All the teeth, mostly carious, removed two years ago. Administration of acid mixture for one month, and she is "convinced she is better."

CASE 3.—Female, aged 23. Fusiform swellings of the fingers of both hands and wrists for two years. Has had all carious teeth extracted. Acid mixture administered for three weeks, and the patient states that the "joint pains are improved."

CASE 4.—Male, aged 43. Fusiform swellings of both hands for 18 months, wrists and elbows for nine months. Improved under guaiacol carbonate. Given the acid mixture for five weeks, and says he "is slightly better."

CASE 5.—Male, aged 32. For last three years has had painful swellings of the joints of both hands, wrists, and right ankle.

CASE 6.—Female, aged 51. Pain and stiffness in the feet for six months; for five months pain and swelling in all the joints of both hands. Improved on the usual treatment by guaiacol carbonate, &c., but much more markedly during the last month on the acid mixture.

CASE 7.—Female, aged 32. Swelling of the wrists, fingers, and ankles for the last three and a half years. A few carious teeth being treated at the present time. Has tried every form of treatment, including hot air, spas, and electricity, without improvement. Since taking the acid mixture for two months the movements and pain in the joints have improved.

CASE 8.—Male, aged 35. For four years has been troubled with pain and swellings in the joints of the hands, and especially the right knee. After four weeks' administration of the acid mixture, says "the pains are better."

CASE 9.—Male, aged 28. For two years had pain and swelling in left knee. No history of rheumatism. Five teeth were removed early in the disease.

CASE 10.—Female, aged 33. Has been troubled with painful swellings in several joints for the last year. Fluid taken from the knee was found to be sterile. Treatment with guaiacol carbonate, alkaline baths, &c. Now taking the acid mixture with improvement.

In the cases which have been examined no demonstrable gastric lesion was discovered on examination, yet the results obtained appear to indicate a pathological condition of the stomach in rheumatoid arthritis. The findings agree very closely with those found in such conditions as chronic gastritis, achylia gastrica, anæmia, chronic pulmonary tuberculosis, and some forms of chronic dyspepsia. It is in these cases that a careful and thorough examination of the gastric contents is of value, since it indicates the course of medical treatment that gives relief.

In order that comparative results may be obtained it is essential that a definite technique be employed, and further, that the analysis should be carried out by one thoroughly accustomed to such work. The methods adopted in this investigation are those in use in the chemical pathology laboratory of St. Bartholomew's Hospital, and are based upon the work of Willcox, Graham, and others. The results obtained after several years' experience have been found to be accurate and to yield reliable data for diagnostic purposes.

The following points were ascertained as far as the quantity of the gastric contents obtained would allow. 1. The general appearance and microscopical characters, including in some cases bacteriological examination. 2. The presence of free hydrochloric acid and organic acids. 3. The total acidity. 4. The distribution of hydrochloric acid, whether as (*a*) free hydrochloric acid, (*b*) combined hydrochloric acid with proteins, &c., or (*c*) metallic hydrochloric acid. 5. The ferment activity as judged by the action of rennin on milk. These observations are recorded in tabular form (Table I.), and the findings compared with those obtained in other pathological conditions of the stomach (Table II.). Before, however, dealing with these results, a few remarks with reference to the methods of analysis may be of value.

The general appearance of the test meals and the microscopical characters differed but little from the normal, so that more particular attention was paid to the chemical examination. The total acidity was estimated by titration with decinormal sodium hydrate in the presence of phenolphthalein as an indicator, and is recorded in percentage of hydrochloric acid. Free hydrochloric acid was in every instance tested for by Töpfer's test (dimethylamido-azobenzene), Gunzberg's test, and Congo red papers. The estimation of free hydrochloric acid was in some cases carried out by the use of Töpfer's reagent as an indicator, but the results were not satisfactory compared with the modified Volhard method. The distribution of the hydrochloric acid in the three fractions—viz., free hydrochloric acid, protein hydrochloric acid, and metallic hydrochloric acid—was ascertained by the Volhard process, particular attention being paid to the physiologically active hydrochloric acid. This active hydrochloric acid includes both the free and combined acid, and usually, though not always, corresponds in amount with the total acidity value. The quantitative determination of this form is of great importance in various pathological conditions, but more especially when considered in relation to the hydrochloric acid combined with inorganic bases as metallic salts—i.e., the metallic hydrochloric acid. The ratio of the active acid to the inorganic chlorides has been recorded in the table, and will be referred to again later. Lactic acid was tested for in every case and a rough estimate of the quantity of this and other organic acids present was ascertained by the

excess of the total acidity over the active hydrochloric acid. The rennin activity was estimated by the method described by Willcox.

Taking the results recorded in Table I., we see that in almost every case examined certain well-marked changes are present. There is, however, one exception—namely, Case 5—and since this shows features quite apart from the others, it will be considered separately. The microscopical examination does not reveal any points of great importance, unless hydrochloric acid was estimated it was found to be markedly diminished in amount, and in two cases to be completely absent. The mineral chlorides, on the other hand, were found to be increased, and this fact would point to a process of neutralisation of a portion of the active hydrochloric acid after secretion into the stomach. In consequence of this the ratio of the active hydrochloric acid to the mineral chlorides is very low, and rarely exceeds 120. We have then evidence of the following

TABLE I.—*Rheumatoid Arthritis.*

Case.	Volume of gastric filtrate.	Naked-eye appearance.	Microscopical examination.	Free hydrochloric acid.			Total acidity.	Dimethyl acidity.	Lactic acid.	Free hydrochloric acid.	Protein hydrochloric acid.	Metallic hydrochloric acid.	Total hydrochloric acid.	Active hydrochloric acid.	Ratio of active hydrochloric acid to metallic hydrochloric acid.	Rennin activity.
				Gunzberg.	Töpfer.	Congo red.										
	c.c.						%	%		%	%	%	%	%		
1	40	Finely divided residue.	A few motile organisms.	+	+	+	0·159	0·061	+	0·009	0·089	0·08	0·178	0·098	122 : 100	Low.
2	140	Three distinct layers.	No abnormal elements.	+	+	+	0·105	—	0	—	—	0·073	0·107	0·094	130 : 100	,,
3	20	Very small residue.	*Nil* abnormal.	+	+	+	0·197	0·065	0	—	—	0·189	0·379	0·199	105 : 100	,,
4	30	,,	,,	+	+	+	0·127	0·051	+	0·0036	0·113	0·149	0·266	0·113	77 : 100	,,
5	75	Finely divided residue.	,,	+	+	+	0·240	—	+	0·029	0·197	0·029	0·255	0·226	779 : 100	Normal.
6	80	Dark brown residue, very small.	,,	+	+	+	0·029	0·0036	0	0·003	0·031	0·045	0·080	0·034	76 : 100	Low.
7	40	Very small residue.	,,	+	+	+	0·083	—	0	—	—	0·179	0·262	0·083	46 : 100	,,
8	10	Dark residue.	,,	0	0	0	0·09	—	+	0·00	0·08	—	—	0·08	—	—
9	20	,,	Motile organisms.	+	+	+	0·105	—	+	—	—	—	—	—	—	Low.
10	30	Very small residue.	Many motile organisms.	0	0	0	0·0474	—	0	0·000	0·045	0·1095	0·1545	0·045	41 : 100	Very low.

TABLE II.—*Synopsis of Gastric Contents in Other Conditions.*

Case.	Condition.	Volume of gastric filtrate.	Naked-eye appearance.	Microscopical examination.	Free hydrochloric acid.			Total acidity.	Dimethyl acidity.	Lactic acid.	Free hydrochloric acid.	Protein hydrochloric acid.	Metallic hydrochloric acid.	Total hydrochloric acid.	Active hydrochloric acid.	Ratio of active hydrochloric acid to metallic hydrochloric acid.	Rennin activity.
					Gunzberg.	Töpfer.	Congo red.										
		c.c.						%	%		%	%	%	%	%		
	Normal.	50	Three distinct layers.	*Nil* abnormal.	+	+	+	0·250	0·10	0	0·02	0·23	0·07	0·32	0·25	357 : 100	Normal.
1	Chronic gastritis.	40	Finely divided residue.	—	+	+	+	0·18	—	0	0·01	0·17	0·107	0·25	0·18	178 : 100	Low.
2	,,	130	Large undigested residue.	Organisms.	0	0	0	0·025	—	+	0·00	0·015	0·069	0·084	0·15	217 : 100	,,
3	,,	40	Undigested residue.	—	+	+	+	0·182	—		0·015	0·176	0·127	0·313	0·186	154 : 100	,,
4	,,	30	Very large residue.	Squamous epithelial cells.	0	0	0	0·0766	—	0	0·000	0·084	0·069	0·153	0·084	120 : 100	,,
5	,,	48	Large residue with mucin.	*Nil* abnormal.	+	+	+	0·116	—	0	0·007	0·109	0·098	0·215	0·116	118 : 100	,,
6	,,	60	,,	,,	+	+	+	0·193	—	0	0·02	0·153	0·109	0·284	0·173	160 : 100	,,
7	Carcinoma of stomach	50	,,	Pus cells mucin.	0	0	0	0·076	—	+	0·00	0·044	0·142	0·186	0·044	33 : 100	Absent.
8	,,	100	Dark coloured residue.	Many motile organisms.	0	0	0	0·080	—	+	0·00	0·014	0·124	0·138	0·014	11 : 100	,,
9	,,	100	Large residue.	Many bacilli.	0	0	0	0·044	—	0	0·00	0·044	0·211	0·255	0·044	20 : 100	,,
10	Spondylitis deformans	Small.	Finely divided residue.	A few organisms present.	+	+	+	0·244	0·193	0	0·021	0·196	0·062	0.281	0·219	353 : 100	Normal.

the presence of motile organisms may be considered a result of the diminution of the active hydrochloric acid. The occurrence of lactic acid in some instances is also in favour of this contention. The most striking facts are the diminution of the active hydrochloric acid, and the lowered ferment activity. The low values for the active hydrochloric acid are reflected in the total acidity figures, and the amount of free hydrochloric acid present. In those cases where the free

definite changes in the composition of the gastric secretion in nine cases illustrative of rheumatoid arthritis: (*a*) A diminution in the amount of free hydrochloric acid, and also the active hydrochloric acid; (*b*) an excess of mineral chlorides pointing to a process of neutralisation; and (*c*) a comparatively low ratio between the active hydrochloric acid and the mineral chlorides.

If we now turn our attention to Table II. it will be

observed how closely in some respects the gastric analyses in rheumatoid arthritis resemble gastric carcinoma. In the absence of any symptoms pointing to such a lesion in any of our cases we are led to believe that some definite gastric changes must be present in the disease in question. Although this conclusion is drawn from only a comparatively few cases, we think the observations are sufficiently striking to warrant publication, and also further work along these lines. These preliminary observations have been carried out with this object in view, and as the result of considerable experience in the reliability of the chemical analysis of the gastric contents for diagnostic purpose such work offers a promising field for investigation. To a certain extent confirmation of the results is obtained by the fact that the patients obtain relief on treatment based on the analytical details. To further illustrate the value of this side of the problem reference may be made to the last case described in Table II. This was a case of spondylitis deformans, and it will be seen at once that the values given approach those normally found in the gastric contents removed after the standard test meal. Further, in some respects there is a resemblance between this case and Case 5 in Table I. In the latter case the results are so conflicting as to lead to the assumption that some error has occurred. With such limited data as are at present at our disposal it is difficult to make any definite statements as to the significance of the differences observed in individual cases. We hope at a later date to bring forward further evidence of the chemical changes in the gastric secretion in rheumatoid arthritis and allied diseases of the joints.

We wish to express our indebtedness to Dr. A. E. Garrod and Mr. J. A. West for the use of their cases.

A NOTE ON THE MATERIAL AND TECHNIC OF WIRE SUTURE OF BONE,

WITH ESPECIAL REFERENCE TO THE SUTURE OF THE PATELLA AND THE ADVANTAGES OF IRON WIRE.

BY ERNEST W. HEY GROVES, M.S. LOND., F.R.C.S. ENG.,

SENIOR DEMONSTRATOR OF ANATOMY, UNIVERSITY OF BRISTOL.

FOR some years past I have been much impressed with the superior advantages of iron wire over other metal wires in more common use for surgical operations. Recently several papers have appeared, to which I shall refer in detail later, pointing out the disadvantages of silver wire, but as these do not proceed to suggest any substitute I think it may be of interest to describe my experiences with iron wire. It is true that the subject is not of much importance in the operative treatment of fractures of the long bones, because all are agreed that these operations require something much more rigid and exact than "wiring." But nevertheless in the operations of excision of joints, arthrodesis, fractures of the patella and olecranon wire is still an important factor. And within late years the operation of treating large hernias by means of wire filigree has become quite common. So that it is still a matter that is worthy of attention as to which is the best material to use. I have said nothing about the use of wire for suturing of the soft parts, because this seems to me to have so little value. It has been suggested and employed for the most part to bring together structures under great tension. The aponeurotic layers of the abdominal wall in old hernias are often closed by wire sutures. But the greater the tension, the more surely and more quickly will the wire sutures cut out from the soft tissues. But when used for the bones and joints or to form a protective lid over a hernial opening the matter is quite different. The wire holds the parts together until natural healing has occurred and then should remain in its place, where it tends to strengthen the part and to resist rupture in the event of any sudden strain. In fact, the wire has to act not so much as a suture as a splint.

Before giving examples of the value of iron wire for this purpose I will briefly recount the objections that have been proved to exist against the more commonly used materials. First, then, as regards silver, the material which is probably more widely used than any other. It has long been known that fractures of the patella united by silver wire are apt to re-fracture. This is often due to the fact that the sutures only grasp a thin shell of cancellous bone, but it has also resulted from the fracture of the wire. But the fact that silver wire not only occasionally, but generally, becomes disintegrated in the tissues has been conclusively proved by recent X ray photographs of the late results of the filigree operation for hernia. Riem[1] examined 11 cases that had been operated on by Professor Körte within an interval varying between five and eight years. These included 8 inguinal, 2 ventral, 1 femoral, and 1 umbilical herniæ (one patient had an umbilical as well as an inguinal), and all of them had a large silver wire filigree used to close the gap in the deep muscles. In 7 of these patients a skiagram was taken; in one a necropsy was obtained after death from cancer of the stomach, and in this way an accurate knowledge of the fate of the wire filigree was obtained in nine cases. In every patient the filigree was broken and distorted, only one filigree having remained intact for five years—viz., that used for the inguinal operation in the patient with two ruptures. In many cases the wire net had not only become torn but also much displaced, and sometimes loose fragments of wire could be seen at a distance from the original mass. All the patients described by Riem were elderly, and none of them had engaged in any laborious occupation after the operation. I take it that we could not have more convincing evidence than this that silver wire is very unreliable material for sutures.

Von Frisch[2] relates a very interesting case bearing upon the same point. A woman, aged 56 years, came for treatment for chronic intestinal obstruction of some years' standing. At the age of 32 she had been operated on for a myoma and subsequently for a ventral hernia. At the operation performed for the relief of the obstruction it was found that silver-wire sutures had been used to close the hernial orifice. These had all ruptured, and the ends of the broken wires had protruded into the abdominal cavity, where they had caused dense masses of black adhesions between the omentum, mesentery, and small intestine. A piece of omentum removed was found by microscopical and chemical examination to be densely filled with particles of sulphide of silver.

I have myself seen a necropsy on a man who had been operated on by the filigree method some years previously for an inguinal hernia, and who had died from cancer of the colon. A part of the silver wire had ruptured and projected through the parietal peritoneum, where it had caused an adhesive peritonitis. I ought to add that in the great majority of these hernia cases the filigree method has been perfectly satisfactory from a functional point of view, and I am merely quoting them here in order to demonstrate the manner in which silver wire behaves in the tissues.

Von Braun[3] has examined 12 cases of sutured patella by means of the X rays. In all of these except one the silver wire was ruptured; in some a broken end appeared to be projecting into the joint cavity, and in others it had forced its way through the skin so that it had to be removed. Von Frisch, in commenting on these cases, comes to the following conclusions. Silver is rapidly sulphurised in the tissues, but a thick silver wire becomes quickly coated by a layer of sulphide so that the process does not penetrate very deeply into its substance. He considers that the wire is broken at the point where it is constantly bent by the muscular movements of the part. It is much better to use thick wire than several strands of fine wire.

There is only one other kind of wire that is at all commonly used in surgery besides silver—viz., aluminium bronze. I have found this easy and satisfactory to work with, but I have been struck by the fact in animal experiments that the tissues in the neighbourhood of the wire are always discoloured by a green deposit which is no doubt a copper compound, and healing is always delayed or altogether absent in these green tissues. Considering the poisonous nature of copper, I think that this is

[1] Riem: Ueber das Schicksal der eingenähten Silberdrahtnetzen zum Verschuss von Bruchpforten, Archiv für Klinische Chirurgie, 1910, Band xciii., S. 973.

[2] Von Frisch: Ueber die Anwendung des Silberdrahtes in der Chirurgie, Ibid., 1912, Band xcvii., S. 831.

[3] Von Braun: Ueber das Schicksal des Silberdrahtes bei der offenen Naht der gebrochenen Patella, Beiträge zur Klinischen Chirurgie, Band l., S. 38.

a sufficient reason for discarding this kind of wire, which one can the more readily do as it is but little stronger than silver (7 : 5).

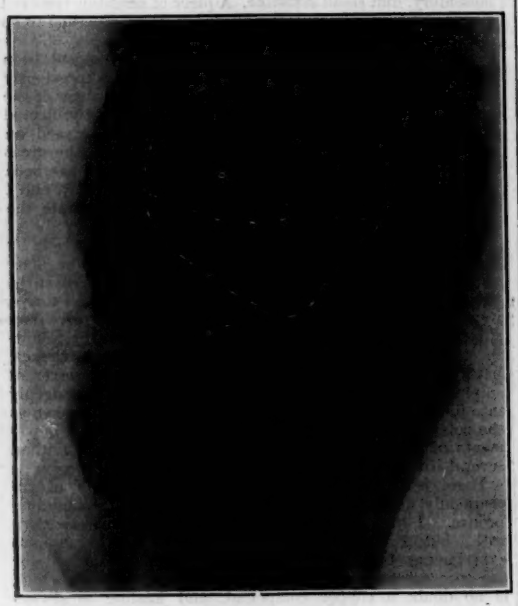
In order to gain some accurate idea as to the actual strength of these various wires I have asked Professor Ferrier of the engineering department of the Bristol University to test some samples as to their breaking strain. He has very kindly done this, and he has also measured the diameter of each sample instead of merely assuming that the standard sizes are always of the same thickness. But unfortunately this inquiry is not so simple as one might have expected, for in the first place the so-called standard sizes vary so much in thickness; for example, a No. 18 wire varies between 152 and 196 units of cross sectional area; then the samples, especially of silver wire, vary so enormously in strength—e.g., a piece of No. 18 silver wire which ought according to its thickness in proportion to other samples have broken at a strain of 121 lb. actually broke at 79. But without going further afield into this technical subject I will merely give the breaking strain of samples of three kinds of wire which were of approximately the same size (i.e., they did not differ from one another by more than 0·001 in.), and which conformed to the general average strength of the material used.

Standard wire gauge.	Diameter in inches.	Breaking strain in pounds.		
		Iron.	Aluminium-bronze.	Silver.
No. 27	0·018	37·5	28·5	20·0
,, 24	0·022	50·0	46·0	31·0

To put the matter in a simple way, the relative strength of the three wires is—iron 9, aluminium-bronze 7, and silver 5.

I presume that the reason why iron wire has not been more extensively used in surgery is its liability to oxidation and the

FIG. 1.



Skiagram of a fractured patella two months after wiring. Note the absence of any sharp turns or kinks in the loop of iron wire. The outline of the patella and the line of fracture are emphasised by dotted lines.

old-fashioned dread of the poisonous effects of a rusty nail. But of course this tendency can be overcome by plating the iron either with tin or nickel, and, as a matter of fact, iron rust, apart from infective material, is quite harmless in the tissue, and both steel and iron plates of any size can be left for an indefinite time in the tissues without causing any ill effects.

Three examples of the surgery of the knee-joint will serve to illustrate some of the uses of iron wire. The first case is that of a fractured patella. The patient was a man aged 40 years, who had broken his knee whilst playing tennis. The fracture was across the middle of the bone, the lower fragment being rather the smaller. The skiagram was taken two months after the accident. (Fig. 1.) The wire is placed as a single oval loop which only penetrates the bone on its

FIG. 2.

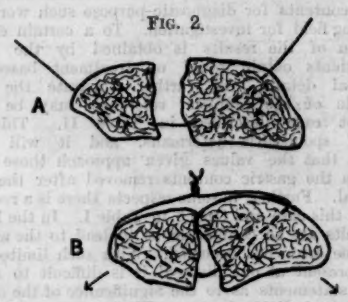


Diagram of the method of wiring the patella usually taught. A, The wire is inserted through two obliquely placed holes in the two fragments so as not to encroach on the cartilaginous surface. As the fragments must be bored separately it is very difficult to place the holes exactly opposite each other on the fractured surfaces. B, As the wire is drawn tight it kinks at the points where it emerges from the front surface, exercises traction on the front of the bone but not on the back. The arrows indicate the direction of the forces which pull on the bone. It will be noticed that these will be met only by the anterior strand of wire, which will probably break or tear out at the sharp bends. Note that the wire ends must lie just under the skin.

upper and lower margins just enough to prevent it slipping. The wire used was a No. 16 tin-plated iron wire with a breaking strain of over 300 lb. By putting in the suture in this way it can be tightened up so as to bring the fragments into the closest apposition, without any fear of cutting out

FIG. 3.

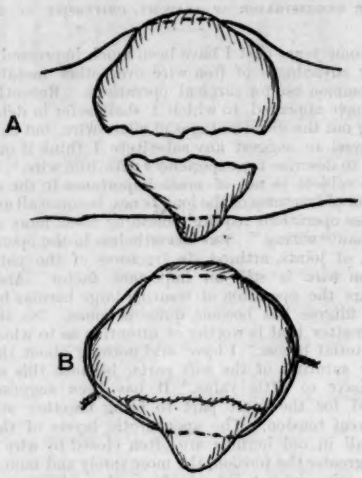


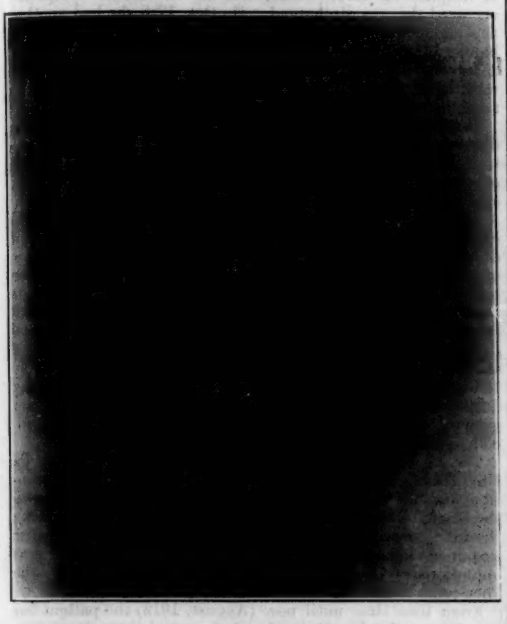
Diagram of the method of wiring the patella by means of horizontal loop of wire. A, Two strands of wire are introduced transversely so as to just grip the upper and lower margins of the bone. B, The ends of the wires are twisted together, the mere act of twisting pulling the fragments truly together. The wire ends will lie buried in fascia at the sides of the patella, away from the skin surface.

of the friable bone. And, further, all sharp kinks in the wire are avoided, and there is not the least tendency to enter the joint cavity in placing the suture.

Many text-books still describe the method of passing one

or more wires vertically downwards, just avoiding the cartilaginous surfaces. This is a difficult manœuvre, and it is almost impossible to place the holes in the two fragments so accurately opposite one another that the pieces of bone come truly together. Then such sutures tend when tightened to tilt the fragments, leaving a gap towards the joint. When the patient begins to bend the knee this

FIG. 4.



The knee of a boy in whom an arthrodesis has been done, the bones being fixed by stout iron wire.

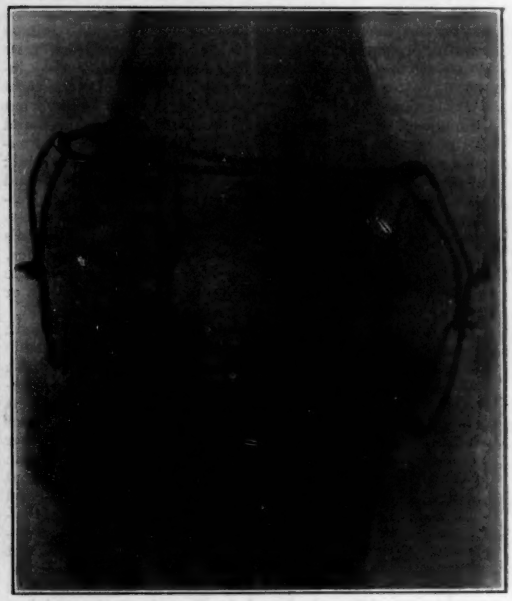
tilting is straightened out by the pull of the quadriceps above and the ligament below, and a loose junction results. Again, vertically placed sutures when tightened up must become sharply kinked at the upper and lower margins of the bone. If a strong wire is used in this way and then tightened it will cut its way through the cancellous tissue. If the wire is weak it will break at the kinked point. I do not think that anyone will dispute the accuracy of these statements either upon theoretical grounds or after trying the two methods. But unfortunately the method of vertical sutures is still so widely taught and practised that it seems worth while to emphasise the greater simplicity, accuracy, and strength of the horizontal circular wire. (Figs. 2 and 3.) One other method of fixing the broken patella need only be mentioned to be condemned. It has become the fashion lately to regard all methods of wiring fractures as old-fashioned and unreliable. In the case of the long bone this is probably true, but in the case of the patella it is not. Plates and screws have certain advantages when used for the shafts of long bones, for in dense bone it is possible to get a very firm grip for short screws. But in the patella there is no dense bone, the screws get no bite at all in the soft cancellous tissue, and a comparatively large plate has to lie just beneath the skin. Placing the screws in position does nothing to draw the fragments together. The patella is very slow in uniting, and when the patient begins to bend the knee the powerful quadriceps will very soon pull the screws out.

Wiring the patella is, I think, one of the most satisfactory operations in surgery provided the proper material is used, and is used in the proper way. If there is any difficulty in getting the fragments together a slight modification of the single loop will be found useful, and this is illustrated in my next case, which is that of an arthrodesis in a boy with infantile paralysis. (Fig. 4.) Two straight wires are taken and passed transversely through the bones, one above and one below the joint (or fracture). The two projecting ends are then twisted together on both sides simultaneously. In the case figured the wire used was tin-plated iron of a diameter of 0·08 inch (i.e., about 1/12th inch) and had a breaking strain of 483 lb. With such a fixation one can be quite happy in letting the patient walk within 14 days of the operation.

I add one more illustration of the use of iron wire, because it shows so well how tolerant the tissues are to its presence. It is from a case of tuberculous knee. (Fig. 5.) In this disease the bones are often so much rarefied and softened that one cannot get any hold upon them by transfixing wires (and still less so by screws or nails). In this case the method I adopted was that of surrounding the ends of both femur and tibia with stout iron wire, including in their grip four vertical strands of wire. After the horizontal wires had been tightened so as to cut a groove into the bones, the vertical strands were drawn together in the manner shown. It is now more than a year since this operation was done and the limb is firm and strong, the wires being still in place.

In conclusion, I cannot help urging both upon students and surgeons the importance of testing the materials and methods employed in bone surgery on dry bones, or better still in the dissecting-room, before performing on living patients. The obsolete methods by which operative surgery is still taught leave all these points untouched. In my opinion a course of practical instruction in a carpenter's shop or engineering laboratory might with great advantage be substituted for a part of the present course of operative surgery in which the student is occupied in performing feats

FIG. 5.



The bones of a tuberculous knee fixed by iron wire after excision.

of anatomical cunning—e.g., ligature of the posterior tibial artery or the excision of a normal astragalus—which it is certain that he will never have to carry out in actual practice.

Clifton, Bristol.

THE QUEEN'S HOSPITAL FOR CHILDREN, BETHNAL GREEN.—A course of clinical lectures and demonstrations has been arranged to take place at this hospital during the ensuing three months, and the first lecture of the series will be given to-day (Friday, Oct. 4th) at 4 P.M., at the hospital.

A CASE OF INTRACRANIAL TUMOUR.

BY HUGH SMITH, M.D. LOND., F.R.C.S. ENG.,
HONORARY PHYSICIAN TO THE SOMERSET HOSPITAL, CAPE TOWN.

IN THE LANCET of June 16th, 1906, I reported a case of sarcoma growing from the meninges over the middle frontal convolution of the left cerebral hemisphere which had been removed by my surgical colleague, Dr. C. C. Elliott. The subsequent history of the case is of interest.

Summary of former paper.—The patient, a European female, aged 44 years, was admitted to the Somerset Hospital under my care in September, 1905. Her symptoms were: mental apathy and defective memory of three or four months' duration; left frontal headaches (severe) one month; occasional vomiting of cerebral type; and slight weakness of right arm and hand about one week. Upon examination the patient was found to be dull and lethargic, slow in understanding what was said to her and in expressing herself, but not aphasic. There was paresis of the right arm and hand, but she was able to execute all movements except those of writing, and there was very slight paresis of the face and leg on the same side. The movements of the tongue and ocular muscles were unimpaired. The pupils were equal and active and vision was normal, but double optic neuritis was found on ophthalmoscopic examination. The knee-jerks were increased; no ankle clonus; plantar reflexes indefinite in type. Tenderness was elicited by pressure in the left frontal and temporal regions. Temperature 97·5° F.; pulse, 54; bowels constipated. There was no evidence of syphilis or tuberculosis; no ear or nose disease; no history of injury.

The patient rapidly became worse, with increasing headaches and tenderness, especially in the left temporal area and behind the left mastoid process. The mental dulness steadily deepened into stupor, and the evacuations were passed unconsciously. The paresis of the right side increased in the face, arm, and leg, and involved also the right external rectus muscle and the right half of the tongue; but although of wide distribution it remained a hemiparesis and was never a complete hemiplegia. The pupils became unequal—right larger—and sluggish; vision much impaired; increasing double optic neuritis, with much swelling and hæmorrhage—more marked in the left eye. The deep reflexes were much exaggerated, especially on the right side—on which also ankle clonus could be obtained. Babinski's plantar reflex and Kernig's sign were elicited on both sides. Vomiting recurred occasionally. There was no appreciable sensory defect, and never convulsions or tremors, vertigo, or nystagmus.

The case was diagnosed as one of intracranial growth involving the posterior end of the middle frontal convolution of the left cerebral hemisphere. Vigorous treatment with mercury and iodide of potassium, and also bromide, was continued for three weeks, but in spite of this the symptoms progressed rapidly and operation was decided upon without further delay. On Oct. 2nd, 1905, Dr. Elliott trephined over the area indicated and exposed and removed a growth apparently originating in the dura mater. It measured 2 × 2 × 1½ inches, and was found to be a spindle- and round-celled sarcoma. It compressed the posterior two-fifths of the left middle frontal convolution, and the corresponding portion of the superior convolution. The patient had a "fit" six hours after the operation; she called out, her eyes were fixed and staring, teeth clenched, and head turned to the right. It lasted barely one minute, and had ceased before the arrival of the medical officer. The after-progress was quite satisfactory, and she left the hospital on Nov. 11th, feeling "perfectly well." All paresis had disappeared, the optic neuritis had subsided, leaving normal vision, and the mental condition was entirely satisfactory. The plantar reflexes were normal; the knee-jerks somewhat brisk but equal on the two sides; no ankle clonus. The pupils were equal and active; the left optic disc was slightly paler than the right. The wound had soundly healed, without bulging, and she wore an aluminium cap over the site of the operation.

For full details I would refer those interested in the subject to my original communication.

Subsequent history.—The patient came to see me at intervals, and remained well until April, 1907, when examination failed to detect any physical signs of defect. After this date she began to suffer again from left frontal headaches. On Sept. 4th she had a fit; her head and eyes were turned to the right, then the right side of the face became convulsed, then the right hand and arm. She became unconscious and fell. When seen by me eight hours later I could detect no motor or sensory defect; there was no optic neuritis; the knee-jerks were a little increased, but there was no ankle clonus. She was kept under observation in hospital for three weeks, but as no further symptoms occurred she was discharged. On Oct. 17th she had another fit—clonic spasms of head and eyes to the right side, then of hands, then loss of consciousness and general convulsions. After the fit no paresis remained, but the mental condition was distinctly impaired. There was no bulging at the trephine opening. She was readmitted to hospital.

It was at first thought that the fit of Sept. 4th might be due to cortical irritation from adhesions at the site of operation, but after this second fit the probability of recurrence of the growth seemed too great to permit of further delay, and at my request Dr. Elliott again operated on Oct. 24th. A large flap of scalp was reflected enclosing the old cicatrix, and the scalp tissues, pericranium, and remains of dura mater were found to be closely adhering to the surface of the brain, especially at the upper edge of the old trephine opening. This latter was enlarged upwards and backwards to the margin of the longitudinal sinus, and after very careful dissection Dr. Elliott exposed a nodulated growth attached to the dura mater and lying over the posterior portions of the superior and middle convolutions of the left frontal lobe. It was removed together with the adherent and surrounding dura mater. In size it was about equal to the primary growth, and—like it—was a mixed (spindle- and round-celled) sarcoma.

The patient made a good recovery and left the hospital on Nov. 29th. Her mental condition was slightly dull; attention and memory were defective, and she felt "strange in the head." The right pupil was a little larger than the left; the fundi were normal, with the exception that the left disc remained somewhat paler than the right, and vision was unimpaired. There was no motor or sensory defect; the knee-jerks were a little increased on both sides.

From that time until now (August, 1912) the patient has remained well. She has no headaches, and there is no pain or tenderness or bulging in or about the site of the operations. Her memory and general mental condition have much improved since the second operation, and are now quite good. There is no paresis, motor or sensory. Vision is excellent, and with ordinary glasses for presbyopia she can sew, read, and write without difficulty. Fundi normal. The pupils are equally active to light and during accommodation, and are usually equal in size; but the right is apt to become larger under excitement—e.g., when examined by several medical men. Her patellar reflexes are brisk on both sides, but there is no clonus. She is able to perform all her domestic duties.

Nearly seven years have now elapsed since the first operation, and almost five since the recurrent growth was removed. The patient has been shown at clinical meetings of the local branch of the British Medical Association and at the Twelfth South African Medical Congress held in Cape Town in November, 1910. When last examined, on August 6th, 1912, she was still to all appearances, and after careful investigation, perfectly well.

Remarks.—A point of great interest is the "silent" character of the recurrence. The secondary growth must have attained considerable size before the fit of Sept. 4th, 1907, first aroused suspicion of its existence. Owing presumably to the presence of the large trephine opening, the usual pressure symptoms were absent or very inconspicuous, notwithstanding the large size of the tumour. There was little or no bulging of the scalp, no vomiting, no optic neuritis, and the headaches were not severe. Ultimately, the continued growth of the sarcoma probably caused dragging of that portion of the cortex cerebri which had become adherent to the scalp tissues after the first operation, and so induced an irritable condition which culminated in a fit. This latter began with deviation of the head and eyes to the opposite side, as would be expected in an irritative lesion starting from the posterior end of the middle frontal convolution.

Remembering this silent character of the recurrence, one

may still hesitate to pronounce the patient "cured," but the length of time that has elapsed since the second operation encourages the hope that she is, and will remain, free from further recurrence.

Cape Town.

Reviews and Notices of Books.

Handbook of Mental Examination Methods. By SHEPHERD IVORY FRANZ, Ph.D., Scientific Director and Psychologist, Government Hospital for the Insane, Washington; Professor of Physiology, George Washington University. With 33 figures and diagrams. Nervous and Mental Monograph Series, No. 10. New York: The Journal of Nervous and Mental Disease Publishing Company. 1912. Pp. 165. Price 2 dollars.

IT is a commonplace of medical journalism to speak of the strides that are yearly being taken in the sister sciences of neurology and psychiatry. At the same time it may be doubted whether the profession is, as a whole, alive to the fact that increase of knowledge must result in a general raising of the standard of qualification for the prosecution of these branches of the art of medicine. It is still apparently assumed in some quarters that the science of psychiatry cannot be exact, while in others the assumption is made that because each of us has a mind it is easy not only to observe the mental condition of others but to draw proper conclusions from these observations. As long as this attitude is adopted, so long will psychiatry fail to attain that level which its importance demands. In view of the wealth of material at the disposal of the investigator, it is peculiarly unfortunate that in England asylum service does not offer that attraction to the scientifically minded young graduate which it ought to offer, while, on the other hand, asylum posts are taken readily enough by men whose qualifications for the work are not always apparent. If it is the business of the asylum officer to deal with mind, then, as Dr. Franz insists, he must, for the furtherance of his work and for the proper investigation and estimation of his material, know what has been accomplished, what facts have been gathered, and what methods have been employed.

No one will feel that the desirability of training the physician especially for asylum practice is superfluous if he glances through the 160 odd pages of this handbook, devoted solely to methods of examination, from which, moreover, as the author states in his preface, many valuable methods have been omitted. The one aim of the author is to ensure that the mental examination of patients may be conducted in a more systematic and scientific manner, and his handbook is well calculated to achieve this purpose. No one who has to do with the medical care of the insane can fail to be stimulated by a perusal of the book; it will serve to bring home to him the immense possibilities for investigation that lie to his hand, and it will assuredly suggest to him lines of study that might be pursued to his advantage and to that of his patients. The chapters are devoted to a consideration of methods concerned with sensation, movement, speech, attention, apprehension and perception, memory, association, calculation tests, time of mental processes, general intelligence, and to methods of dealing with observational data. The laboratory methods of ten years ago become the clinical methods of to-day, and therefore it need not be felt that some of the procedures here described are too elaborate for the ordinary individual. Only those are given which have been personally employed by the author with success.

By way of criticism we could wish that more attention had been given by Dr. Franz to the investigation of apraxia. Seeing that it is a common symptom in general paralysis, senile and arteriopathic dementia, and dementia præcox, to mention only a few mental diseases, and that it is, moreover, of localising value, the few lines on page 60 devoted to the matter are in our opinion inadequate, and we hope that this will be remedied in a subsequent edition.

The Treatment of Fractures by Mobilisation and Massage. By JAMES B. MENNELL, M.D., B.C. Cantab. With an introduction by Dr. J. LUCAS-CHAMPIONNIÈRE, Président de la Société Internationale de Chirurgie. London: Macmillan and Co., Limited. Pp. 458. Price 12*s.* net.

THE method of treatment of fractures by movement and massage, although devised in France many years ago, has been but little practised in this country, and this may have been in part at least due to the fact that no full presentation of the methods invented by Professor Lucas-Championnière has appeared in the English language. It is true that Sir William Bennett has published a useful little book on the subject, but the principles have hardly attracted the attention they deserved.

In the volume before us we have an adequate account of this method of treatment of fractures. It is by no means a translation of the French treatise, for it is based on Dr. Mennell's own experience, but it has had the advantage of the supervision of Professor Lucas-Championnière, who in an introduction has expressed his approval of the work. It is founded on his principles, but it shows here and there new details introduced by the author. Those who have employed this method know that it gives better and more rapid results than can be obtained by the ordinary methods of splinting, and that the pain is certainly less. In this book will be found a full description of the way to employ this treatment. The author is by no means bigoted, and the difficulties as well as the advantages are described. The results of ordinary methods of treatment of fractures are not so good that the surgeon can afford to disregard any mode of treatment promising better results, and this exposition of the treatment by mobilisation and massage is all that could be wished. The method is simple and can be easily learned. The massage advocated by Professor Lucas-Championnière is very different from the practice of the ordinary masseur, and the failures met with by some surgeons may be attributed to a misunderstanding of the application of the method.

Before trying any new treatment it is well to learn it, and to those who wish to try this mode of treating fracture we recommend Dr. Mennell's book.

Handbuch der Vergleichenden Physiologie. Herausgegeben von HANS WINTERSTEIN in Rostock. 22. Lieferung. Band I. *Physiologie der Körpersäfte. Physiologie der Atmung.* Zweite Hälfte. Bogen 1 bis 10. Jena: Gustav Fischer. 1912. Pp. 160. Price 5 marks.

THE comparative physiology of respiration is one of the most interesting chapters in physiology, and it is with peculiar pleasure that we welcome Professor Winterstein's monograph—it is practically a treatise on the physico-chemical phenomena of respiration.

Beginning with the respiratory media, water and air, he explains first the condition of the gases in water—the investigation of the gases in superficial waters of the ocean as well as the water taken from great depths, the effect of ocean and other currents, the circulation of gases between deep and surface water. Next air as a respiratory medium is considered. The special part begins with plants, first those plants provided with stomata and lenticels, then submerged plants. As diffusion of gases takes place slowly in water these submerged aquatic plants have adopted three methods to overcome these difficulties: (1) by making their epidermis more permeable to diffusion of gases; (2) by increasing the surface

for diffusion; and (3) by the development of a large internal air-system of canals and cavities. How these three devices are modified to suit the wants of each plant the reader will find set forth in the text. These adaptations are particularly interesting and suggestive. The "inner atmosphere of plants" is well worthy of study, especially that of submerged plants, as is also the storage of oxygen in plants generally. Next respiration in the various classes of animals, from the protozoa upwards, is considered, much attention being paid to the various respiratory pigments as they occur in different animals. To the student of mammalian respiration we commend the study of the results obtained in the swim bladders of the Siphonophera, such as Physalia, the Portuguese man-of-war, on Rhizophysa, and their "gas-glands" which secrete gases exactly as other glands secrete fluids. All through the invertebrate series the importance of respiratory pigments is recognised and fully described. A full account is given, in succession, of the Echinoderms and their marvellous adaptations in the way of respiratory organs, and worms receive similar attention. Molluscs are in turn dealt with, and lastly amongst invertebrates the Tracheatæ. Respiration in insects is very fully considered. To invertebrate respiration about 100 pages are devoted. The remainder of the text is given to the various organs of respiration in fishes, gills, skin, mouth, gut, and so on.

Altogether this is a compendious and clearly written presentation of the leading facts, doctrines, and theories germane to the comparative physiology of respiration.

Medico-Legal Examinations and the Workmen's Compensation Act, 1906. By Sir JOHN COLLIE, M.D. Aberd., J.P., Medical Examiner for the London County Council. London: Baillière, Tindall, and Cox. 1912. Pp. 128. Price 5*s.* net.

THE name of the author is a guarantee that the volume under review is the result of close observation, wide experience, and intelligent reasoning. Sir John Collie has also a lucid, unaffected style and a vigorous and incisive way of making good his points.

The first part of the book records cases within the author's experience, and is likely to be of use to medical men engaged in examining persons making claims for compensation in respect of injuries, and it need hardly be said that useful hints upon malingering may be found here. In this respect the book should be of use to medical practitioners likely to be brought into contact with victims of accidents, whether consulted on behalf of the alleged sufferer or of those from whom he is seeking compensation. At least as much as to medical practitioners, however, we would commend to legislators Sir John Collie's observations on desirable reforms of the law. He is probably right in the suggestion that the law of workmen's compensation as now enforced goes far beyond the intentions of those who framed the original Workmen's Compensation Act, passed in 1897. When, however, the present Act went through the House of Commons there was a large body of Members in the House who were desirous of compensating workmen whenever and however they were injured. Parliament then appears to have intentionally passed an Act not greatly differing from its predecessor, but, like it, capable of considerable expansion of meaning in the hands of the judges, and there is little likelihood of the wide meaning assigned to the word "accident" and to the words "out of and in the course of his employment" being explicitly restricted by future legislators.

There is, however, a more reasonable likelihood that some day the duties of the medical referee may be so enlarged and defined as to make unjust and erroneous decisions on strictly medical facts less frequent, that the expenses of litigation in connexion with workmen's compensation may be lessened for both parties to the dispute, and that the deliberate frauds of workmen simulating or exaggerating the effects of injuries may be brought home to them. The exaggeration or simulation of symptoms alleged to be due to injuries may not be frequent compared with the large number of genuine accidents causing undoubtedly serious results, but it cannot be right that claims should be put forward and pressed, sometimes successfully and sometimes unsuccessfully, which are based upon deceit, and that detection of the dishonest attempt should involve no penalty for those connected with it. The presence of a medical assessor, either in all cases involving medical evidence as to facts in dispute or in any case upon the application of one of the parties, would certainly make for justice, but this reform is one which neither lawyers nor medical men, but members of the lay public affected must promote in their own interests. It is they who are the sufferers under the present system, and the remedy is in their hands. The need for it they will understand better than they do now from the perusal of Sir John Collie's facts and arguments.

Zur Kenntnis des Uteruskarzinoms. Monographische Studie über Morphologie, Entwicklung, Wachstum, nebst Beiträgen zur Klinik der Erkrankung. Von Dr. J. SCHOTTLAENDER and Dr. F. KERMAUNER. With 268 illustrations in the text and 16 plates. Berlin: S. Karger. 1912. Pp. 763. Price 42 marks.

THIS book is one of the most important monographs on cancer that have been published, and forms a worthy memorial to the late Professor von Rosthorn, by whom it was conceived and to whom it is dedicated. Unfortunately he died before he could complete his task, and his portion of the work has been taken up by his pupil Kermauner.

The results are based upon the study of 135 cases of cancer of the uterus which were operated upon in von Rosthorn's clinics at Graz, Heidelberg, and Vienna. The cases are all described in great detail, special attention being paid to the anatomy and to the mode of development of the cancerous growth and its spread in the neighbouring tissues and viscera. The conditions found on microscopic examination are carefully set out in each case, and particularly those found in the lymphatic glands, the bladder, the cellular tissue, and the vagina, when the growth had spread beyond the uterus. The majority of the cases were operated on by the extended abdominal operation, of which von Rosthorn was always an upholder. The general operability rate is estimated at about 57·22 per cent. Among 256 abdominal operations there were 46 deaths, or 18 per cent., a figure which corresponds very closely to the average mortality rate of Wertheim in his first 500 cases. In half the cases the cause of death was one or other form of septic infection. The absolute recovery rate of the cases operated on in Vienna, according to Winter's method of calculation, is 36·2 per cent.

One of the most interesting points which are brought out by the anatomical investigations is the comparatively large number of cases in which a carcinoma beginning in the cervix spreads up into the body of the uterus—namely, in over 50 per cent. of the cases. It is also interesting to note that in 28 cases of early carcinoma there was not a single case in which it could be demonstrated to have started in the portio vaginalis. The authors show that in the great majority of cases the growth begins in the region of the external os, and that in most of the cases there are some ectropion and laceration of the tissues present. As they point out, a growth spreading extensively on the surface of the cervical mucosa is rare. Out of 120 cases 74 showed invasion of the parametrium, and 23 out of 48 cases

examined showed invasion of the lymphatic glands. An interesting and unexpected finding is that of seven cases of carcinoma of the body of the uterus, in no less than four growth was found in the parametric tissues and in the glands about the ureters. Histologically the authors divide their types of cases of carcinoma of the uterus into two main classes, primary solid growths and primary glandular growths, with a third form, which is a mixture of the two. In 115 out of 140 cases the growth was of the primary solid variety—that is, it arose from squamous epithelium, cylindrical epithelium of the uterine cavity with metaplasia of its cells, or glandular epithelium which had lost its glandular character.

The conclusions of the authors are very excellently summarised, and this summary displays one of the chief merits of the work in a striking manner—namely, the note of impartiality which pervades the whole and the soundness of the deductions drawn, based as they are upon facts, and facts alone. It is impossible for us to give even a summary of their conclusions. The book is one which no worker on the subject can afford to neglect to read, and it contains a mass of information and scientific observation of great value. It is a model of research of the highest character, and will prove of real value to those engaged in the investigation of the nature of cancer which is now being carried on in all civilised countries. There are 268 figures, mainly outline, in the text and 16 excellent coloured plates.

Atlas of Killian's Tracheo-Bronchoscopy. By Sanitätsrat Dr. MANN, Director of the Ear, Nose, and Throat Department in the City Hospital, Dresden Friedrichstadt. Translated by THOMAS GUTHRIE, M.B. Cantab., F.R.C.S. Eng., Liverpool. London: John Bale, Sons, and Danielsson, Limited. Würzburg: Curt Kabitzsch. 1911. With 20 plates. Price 22*s.* net.

THIS work is a bound collection of coloured plates representing post-mortem pathological findings from cases examined during life by means of tracheo-bronchoscopy. The author has rightly turned to pathological anatomy as the rigorous critical standard in his desire to arrive at a decision as to the value or worthlessness of this new method of clinical examination of obscure cases. The plates are intended to assist the specialist in the interpretation of his tracheo-bronchoscopic observations. The clinical endoscopic observations he has described in each individual case in words alone, and has purposely refrained from depicting them, because illustrations of this particular kind demand too much subjective interpretation. Consistently with the scheme of an atlas the letterpress throughout is concise and kept within a limited space. Hence the technique of conducting tracheo-bronchoscopic examinations is not included. Facing each plate, the title descriptive of the case, the historical data, the results of a general examination, of laryngoscopy, radiography, tracheoscopy, œsophagoscopy, the diagnosis (clinical and microscopic), and the necropsy, with the lessons which it brings, are given in parallel columns in German, French, and English. Those who are not conversant with German are indebted to Mr. Guthrie for a very readable translation. Each coloured plate is protected with a tracing paper upon which the coloured drawing is outlined, and which carries with it the descriptive legend and lettered interpretation also in these three languages.

The coloured plates, 20 in number, illustrate the post-mortem findings of 15 cases. The pathological preparations are drawn either to the natural size, or nearly so. The first four cases are concerned with the thyroid gland. The first was a suppurating substernal goitre, and the other three were cases of malignant growths. Stenosis and displacements of the trachea are, of course, much more frequently due to simple goitre. Dresden is comparatively free from goitre, and as no case had been examined post mortem the condition is not illustrated. In the next two cases carcinoma of the œsophagus had invaded the trachea. In the seventh case stenosis of the trachea and bronchi was caused by cancerous metastases in the surrounding lymph glands. Cases 8, 9, and 10 demonstrate how an almost identical form of aneurysm of the aortic arch can give rise to three totally distinct clinical and bronchoscopic pictures, each with a different termination. Dr. Mann does not share the general dread of tracheoscopy in aneurysm. Cases 11, 12, and 13 are primary carcinoma involving respectively the right and the left main bronchi, and the lower portion of the trachea and both bronchi. In view of the rarity of the disease it is certainly remarkable that Dr. Mann should have happened upon three cases among his necropsies. Syphilis of the air passages is not uncommon, but opportunities for examining post mortem cases such as No. 14, stenosis of the lower end of the trachea due to syphilitic scars, are rare. The series concludes with a case of scleroma of the larynx, trachea, and bronchi, which, on account of its rarity in Dresden, is included in the collection.

Traité des Variations de la Colonne Vertébrale de l'Homme, et leur Signification au Point de Vue de l'Anthropologie Zoologique. Par M. le Prof. A. F. LE DOUBLE, de Tours. With 120 figures in the text. Paris: Vigot Frères. 1912. Pp. 543. Price 25 francs.

Professor le Double, whose name is so well known in connexion with the study of the variations and anomalies of the human body, has here brought together the many recorded variations of the elements of the vertebral columns The work is an exhaustive one which must at once take it. place as a standard work of reference. A vast number of cases has been collated, and all the variations are excellently described and figured; and although the author is by no means given to formulating a theory concerning every abnormal bony process, there are many suggestive lines of thought opened up in the discussion of the anomalies.

The work gains an added interest and importance from the careful account of the vertebræ of lower animals and the record of variations which have been met with. The references to the literature are well revised. We note an occasional slip in the spelling of certain English names, but the actual omissions of foreign contributions seem to be very few. An appendix on the variations of the skull bones is added, but the treatment of this subject is less exhaustive than that of the rest of the work. The numerous illustrations are clear and well chosen. Speculative matter has been in great measure left till the end, for this most interesting and valuable work terminates with an address entitled, "Quelques Considérations sur les Doctrines de l'École Anatomique Tourangelle Contemporaine," which teems with suggestive and stimulating speculations.

Lehrbuch der Therapie innerer Krankheiten für Aerzte und Studierende. Edited by Dr. PAUL KRAUSE and Dr. CARL GARRÈ. Vol. II. Jena: Gustav Fischer. Pp. 712. Price 10.50 marks.

IN this volume the treatment of a large number of diseases is considered, but the space devoted to each malady is not large, so that discussion on the various therapeutic measures that may be adopted in any particular case is brief. The information is conveyed in concise terms, on which account this text-book is more suitable for practitioners than for students.

Under the heading of each disease general prophylaxis is first considered, and numerous suggestions are made which will be found of value in actual practice. Next comes the general treatment which should be followed in regard to diet

and hygienic precautions. Finally, full directions are given in regard to the use of drugs. Naturally, the prescriptions which are suggested are more directed to German than to English readers, but it is interesting to compare the therapeutic measures that are adopted in other countries with those used in our own. Generally speaking, the prescriptions given in this work, although following similar lines to those adopted by English physicians, are simpler and contain fewer ingredients.

The instructions given throughout the volume are easy to follow, and we consider that it will be found a good and convenient work of reference, especially for those practitioners who desire to obtain the most modern views on therapeutics briefly and plainly set forth.

Tropenkrankheiten und Tropenhygiene. Von Professor Dr. REINHOLD RUGE, Marine-Generalarzt in Kiel; und Dr. MAX ZUR WERTH, Marine-Oberstabsarzt in Kiel. With eight maps and 201 illustrations in the text. Leipzig: Dr. Werner Klinkhardt. 1912. Pp. 463. Price in paper covers, 13 marks; bound, 14 marks 20 pfennigs.

THIS book forms the sixth volume of the work entitled "Leitfäden der Praktischen Medizin," edited by Professor Brokenheimer, of Berlin. It is frankly admitted by the joint authors of this volume that it is an easier task to write upon indigenous diseases than upon those of tropical origin. In the preface it is stated that endeavour has been made to present the information in as condensed a form as possible, and while the maladies most commonly met with in tropical climates are described in some detail, those that are less frequently seen are dealt with in briefer fashion; and those which are very rarely encountered are omitted altogether.

The joint authors divide the work between them as follows. Professor Ruge treats of all those ailments which are included under the general term of "internal medicine," and Dr. zur Werth writes upon tropical hygiene and upon the affections of hot climates usually classed as "external." Part I. is entirely devoted to the subject of hygiene in the tropics, separate consideration being given to climate, acclimatisation, capacity for working and living in the tropics, clothing, housing, food, water-supply, and the like. The subject of puberty in warm climates is then discussed, as also pregnancy, child-bed, and the rearing of infants. Attention is directed to the hygiene of expeditions in the tropics, medical equipment, and the hygiene of native races. As regards tropical diseases, those that are infectious are first considered, including those which are due to protozoal parasites; then those that are caused by bacilli; and lastly, those of which the precise origin is as yet undetermined. In the next section are treated the maladies arising from worms and those due to arthropods, and then skin diseases, and affections resulting from poisoning by animals or plants. Cosmopolitan maladies commonly occurring in the tropics are dealt with, including the infectious fevers and tubercle, as also affections of the respiratory and other tracts. Surgical affections, wounds, and injuries peculiar to tropical lands are considered, and also venereal diseases and affections of the eye and ear. A feature of this volume is the excellent character of the illustrations which abound in the text. A series of maps is given showing the distribution throughout the world of the following diseases—namely, malaria, sleeping sickness, kala-azar, beri-beri, schistosomiasis, ankylostomiasis, and filariasis.

The information supplied by this book appears to be quite up to date, and although presented in a succinct form it is nevertheless sufficiently detailed to meet all reasonable requirements respecting the maladies which are most commonly encountered in the tropics. For those of our readers who are especially interested in tropical medicine and hygiene, and who are able to read the German language, we can confidently recommend the book.

Lehrbuch der Kinderheilkunde. Edited by Professor E. FEER (Zürich). Second edition. Jena: Gustav Fischer. 1912. Pp. 750. Price, paper, 11 marks 50 pfennigs; bound, 12 marks 50 pfennigs.

THE fact that a second edition of this book is called for only 14 months after the appearance of the first edition shows that it meets a demand among students and practitioners. The rapidity of the sale may possibly in part be accounted for by the fact that several of the German monographs and text-books of joint authorship on children's diseases were out of print during a great part of last year. The authors of the various articles in Professor Feer's book are, however, in themselves an attraction, and have no doubt largely contributed to the rapid sale of the work.

The alterations in the present edition are comparatively small. The most marked changes occur in Professor von Pirquet's article on tuberculosis, which has been almost entirely re-arranged and considerably altered. The tuberculin treatment is considered and details of treatment are given. Professor von Pirquet recommends the initial dose to be 1/1000 mg. of tuberculin, to be repeated at intervals of three days, the dose being increased by one-half on each occasion, unless a markedly febrile reaction occurs, when it must be kept constant or reduced. When the dose has reached 1 mg. it should not be further raised, but should be kept at that level for one to two months. It is pointed out that in some cases the children become more instead of less sensitive to tuberculin, and in these cases the treatment must be omitted. These doses are very considerably larger than those usually employed in this country at the present time.

In a few other places slight alterations and additions to the text have been made. Professor Feer himself points out that arthritis deformans of the hip-joint is not by any means uncommon in children, and is not infrequently treated for prolonged periods as a tuberculous coxitis. Otherwise the alterations are with few minor exceptions to be found only in the diagrams, of which some are new, and others replace some that were poor in the previous edition.

LIBRARY TABLE.

Aids to Tropical Hygiene. By R. J. BLACKHAM, D.P.H., Major R.A.M.C. London: Baillière, Tindall, and Cox. 1912. Pp. 192. Price 3*s.* net.—In this little work, of a size convenient for the pocket, the author has put together from many sources a compendium of tropical hygiene likely to be serviceable to travellers and residents in warm climates. The subjects of insects and disease, animal parasites, and malaria prevention are dealt with somewhat fully; there is a large amount of information on these and other departments of hygiene, and every trouble has been taken to make it of a trustworthy character. Some items are included that seem hardly necessary in a little work of this kind, such as the allusion to the presence in the atmosphere of argon, helium, and xenon (not zenon, as printed).

Dactylography, or the Study of Finger-Prints. By HENRY FAULDS, L.R.F.P. & S.Glasg., F.R. Anthrop. Inst., &c. Illustrated. Halifax: Milner and Co. Pp. 127. Price 1*s.* net.—The subject of identification by finger-prints in medico-legal cases has several times received attention in these columns. We have fully acknowledged its utility, but have felt constrained to lay stress on the importance of its being practised, in cases in which much depends upon this method of identification, by scientifically trained persons. The proposal to use dactylography as a means of identification in such cases was first communicated to the public by

Mr. Faulds, who is a member of the medical profession, in a contribution to *Nature*, Oct. 28th, 1880. In the present book Mr. Faulds traces the rise and development of the idea of finger-print identification, and proceeds to a detailed description of what may be seen in finger-print patterns. He discusses certain biological questions relating to the subject, and incidentally suggests that the medical profession should pay attention to acromegaly, which involves great expansion of the ridges and furrows, in regard to modification of their linear arrangement. The technique of printing, scrutinising, and interpreting finger-prints is next considered in considerable detail, and the mechanical apparatus needed for the comparison of prints is described and figured. The persistence of the patterns through all the varied circumstances of life, in disease as well as health, is insisted on and supported by many observations, and the method of syllabic classification is explained. In a chapter on the practical results, numerous cases in which identification was indisputably established by means of such prints are related. The possible value of the method as a means of identifying the dead is suggested. In evidence that the method has become an accepted and scientific affair, Mr. Faulds quotes the prospectus of the Birmingham University Medical Course (1911), in which the professor of forensic medicine includes "Finger-prints and Foot-marks." It is satisfactory to note that Mr. Faulds deprecates reliance in critical cases on the interpretation by unskilled observers. A glossary and index complete this useful and interesting little volume.

Aliénistes et Philanthropes. Par le Dr. RENÉ SEMELAIGNE. Paris: G. Steinheil. 1912. Pp. 548. Price 10 francs.—This work consists of short biographies of various members of the Pinel and Tuke families. It forms an interesting record of the scientific and philanthropic labours of the earlier alienists. William Tuke and Philippe Pinel found the treatment of the insane in their respective countries in a deplorable condition, and were pioneers in that magnificent revolution which has, the world over, ended the *régime* which treated the lunatic as a ferocious beast and has given him the privileges claimed by humanity for the sick. We read how at the Bicêtre Pinel found an English captain who for 40 years had been chained as a dangerous lunatic in that place of misery, and how, after Pinel had spoken kindly to him and he had engaged to behave properly, Pinel ordered his chains to be struck off. The manacles were completely removed and the door of the cell was left open. "Time after time," we are told, "he rose from his seat and again fell back, for so long had he been seated that he had lost the use of his limbs. At last, at the end of a quarter of an hour, he succeeds in standing upright and advances haltingly towards the door. His first movement is to look at the sky, and he calls out in ecstasy, 'How beautiful it is.' During the whole day he runs about upstairs and downstairs, constantly exclaiming, 'How beautiful it is.' In the evening he returns of his own will to his cell, sleeps peacefully upon a better bed which has been prepared for him, and during the two years which he has subsequently passed at the Bicêtre he has had no further access of furor, and has even rendered himself useful in the house in exercising a certain authority over the insane." Similar stupid modes of "treatment" were in vogue in this country, and the insane were confined in dens and exhibited for the amusement of a depraved public. At Bethlem in 1770 the price of entry to view the insane was 1*d.* In contrast to this brutality we find the treatment at The Retreat, York, founded by William Tuke, even in its earliest days, characterised by attention to the nutrition of the patients, to indications for rest, hydrotherapeutic measures, and psychotherapy. The work done by these earliest labourers among the insane is worthy of grateful veneration, and it appears to us very proper that an alienist of our own generation should put on record the debt owed by science and humanity to the Pinels and the Tukes. Incidentally Pinel was, as a National Guard, a close witness of the death of Louis XVI., and he has written an interesting account about it which Dr. Semelaigne quotes at length.

Materia Medica and Pharmacy for Medical Students, with an Appendix on Incompatibility. By REGINALD R. BENNETT, B.Sc. Lond., F.I.C., Pharmacist and Teacher of Pharmacy to University College Hospital, London. Second Edition. London: H. K. Lewis. 1912. Pp. 227. Price 4*s.* 6*d.* net.—In reviewing the first edition of this little work we pointed out that, being written by a practical man with a full knowledge of students' requirements, it deserved wide popularity among medical students. This it has attained. As there has been no new edition of the British Pharmacopœia since the first edition of this book was published in 1908, naturally but few alterations, and those only minor ones, have been called for. A few notes on plant constituents have been added, and the Appendix on Incompatibility has been extended.

Hydrologie Élémentaire à l'Usage des Médecins. By ALLYRE CHASSEVANT. Paris: Vigot Frères. 1912. Pp. 208. Price 4 francs.—The large number of patients that flock every year to spas is evidence that benefit is derived from the special forms of treatment adopted at many of these resorts. It is therefore necessary that all practitioners should have some knowledge of the therapeutical principles involved, and it would perhaps be wise if at the medical schools more detailed instruction were given in this subject. In the small volume now before us some information is given on elementary hydrology, especially in regard to the permeability of the geological strata, and the "circulation" of waters in the soil and subsoil. The author then proceeds to discuss the more recent theories as to the constitution of medicinal waters, laying stress on ionisation and radio-activity. The classification of these waters according to the "Furand-Fardel" plan is adopted, and for practical purposes this is probably the best. But brief reference is made to the spas of other countries than France.

The Nurses' Complete Medical Dictionary. Compiled by M. THERSA BRYAN, Samaritan Hospital for Women. London: Baillière, Tindall, and Cox. 1912. Pp. 206. Price 2*s.* net.—This little book appears to us to fill happily its purpose. It is judicious in its selection of words, suitable, as the author tells us in the preface, to supply a complete vocabulary of terms which the nurse is likely to meet in her daily work. For this purpose a handy pocket manual such as this is likely to prove far more useful than a larger book would be. We have not come across any error in its pages that is of serious importance, though there are a few regrettable omissions—e.g., hyperæsthesia, metrorrhœa, linea alba, indicate, exhibit, expectant, spirillum, spirochæte, trypanosome, plasmodium, protozoon, for which some more strictly specialised technical terms might well be made to give place. The chief characteristics are noted under the names of the principal diseases.

MISCELLANEOUS VOLUMES.

England's Riviera, by J. HARRIS STONE, M.A. Cantab. (London: Kegan Paul, Trench, Trübner, and Co., Limited. 1912. Pp. 492. Price 15*s.* net), is not, as one might be led from the title to infer, a hygienic guide to Cornwall, but a topographical and archæological description of Land's End and the adjacent spots of beauty and interest. But besides being a work of general interest to the antiquarian and historian, to those resident in Cornwall, and to intending visitors, it contains not a little material of special interest to

the medical profession in the matter of climate, folk-lore, industrial pursuits, and so forth. It is written in an easy literary style that makes it pleasant reading, and the introduction of local humour, that is often humorous, relieves the more solid character of the work. A consideration of the subject of climate gives the author an opportunity to bring in the schoolboy's definition of the difference between climate and weather: "Climate lasts all the time, and weather only a few days." The author points out, as a mistake made by most local writers on climate, that the deductions are usually made from observations over too great an area, for climate often varies considerably even within a very small compass. "For example," he says, "even the west end of the Green Park, in London, has a very different climate from the east end, caused by the disposition of the houses. A doctor may advise a patient to take a walk during an east wind at the east end, and absolutely forbid perambulation at the west end. I have known this advice given." A good deal of the pilchard oil, the collection of which is one of the staple industries of Cornwall, he tells us, is made into "cod-liver oil." Pilchard oil, indeed, seems to be a universal remedy with the local sailor folk. Leprosy was once very prevalent in Cornwall, and Bishop Bytton, of Exeter (1291–1307), left at his death legacies to no fewer than 23 leper hospitals in Cornwall. The idea of clotted cream, now usually associated with Devonshire, is said to have been borrowed from Cornwall, which, in its turn, received it from Phœnician traders who came to Cornwall in search of tin. Mr. Stone considers that "the riddle of 'charwoman'" is solved by a Cornish provincialism, for in that district "chers means jobs." But surely we do not need to go further for a derivation than the old English word "chore," of Anglo-Saxon origin, which still survives in common use in America and in some parts of England. Those interested in philology will find the Apostles' Creed given in Cornish. There is much about many notable personages, including Sir Humphry Davy; while stones and cromlechs, churches, holy wells, Celtic crosses, Roman coins and urns, mines and mining, radium, wrecks and wreckers, epitaphs, and innumerable other interesting topics are not only discursively treated of, but carefully indexed. The book is illustrated by 137 reproductions from the author's photographs. Altogether a charming book of its class.——Some years ago Mr. Kipling inquired, "What do they know of England who only England know?" and he might have added that they who do know their England are very few in number. But the publication of the "Memorials of the Counties of England" should go far towards removing this blemish, for any one who reads and digests the 30 or so volumes already issued should have at least a working knowledge of the history of a good part of England. Without prejudice we think it may be said that to the average man the word Nottinghamshire calls up two subjects—namely, cricket and Robin Hood, with possibly a hazy recollection of the Civil War. When he has read the *Memorials of Old Nottinghamshire*, edited by EVERARD L. GUILFORD, M.A. (London: George Allen and Co., Limited. 1912. Pp. 353. Price 15*s.* net), he will know much about the architectural features of the county, and will in addition have absorbed information upon history, physical geography, and industries. The article on rood screens, by Mr. Aymer Vallance, is of great interest and shows only too well that great as was the havoc wrought by Puritanical reformers, it was in many instances exceeded in wantonness by so-called restorers. Among the items of medical interest we may note the account of Erasmus Darwin, 1731–1802, physician and poet, grandfather of Charles Darwin, and the notice of another medical poet, William Frank Smith, 1836–76, who was for some years physician to the Sheffield Infirmary. Should another edition be called for, the value of the book would be much enhanced were the sketch map at the end to be redrawn, for in many instances the names of places are illegible.

To those who think of "the Coast," meaning the West Coast of Africa, only as the white man's grave, *Nigeria and Its Tin Fields*, by ALBERT F. CALVERT (London: Edward Stanford. 1912. Pp. 488. With 259 illustrations) will prove something of a revelation. Those indeed whose memories of it date some 20 years back will also be startled at the signs of progress and development evidenced in the pages of illustrations which accompany the book. They will read with wonder of the Lagos railway, shortly to be opened, with saloon carriages, sleeping accommodation, lavatories and bathrooms, and a restaurant car! The excellent work of the late Sir Alfred Jones in rendering possible conditions of greater comfort and hygiene on the coast is fitly praised by the author, and there are some general notes on health conditions in West Africa extracted from Dr. H. B. Newman's translation of Professor Ziemann's work on West Africa.——A topographical manual of more directly medical interest is *The British Guiana Medical Annual for 1910*, edited by K. S. WISE, M.B., B.S., B.Sc. Lond., D.P.H., M.R.C.S. Eng., L.R.C.P. Lond. (Demerara: The Argosy Company, Limited. 1912. Pp. 126 + xcvi. Illustrated. Price 5*s.*) This belated number, which is in the seventeenth year of issue, contains eight reports covering matters of medical interest in British Guiana. Dr. E. D. Rowland, the resident surgeon of the public hospital at Georgetown, contributes an article on 64 cases of enteric fever treated in the wards of that hospital from September, 1908, to June, 1910, of which 19 proved fatal. Enteric fever cases, he remarks, are rarely typical in British Guiana, being often complicated with malarial fever. This disease is not compulsorily notifiable, so no exact idea of its prevalence in Georgetown can be formed. Flies are regarded as the chief agents which spread the disease. Dr. A. J. Craigen, of the same hospital, reports the result of 14 years' midwifery work, in which 5479 cases were treated, the death-rate being 2·8 per cent. Forceps were used in 141 cases. Eclampsia is recorded in 116. Ophthalmia neonatorum is stated to be unknown, the eyes of every child being bathed immediately after birth with 1 in 4000 sublimate, after which a drop of 2 per cent. solution of silver nitrate is applied. Mr. A. T. Ozzard gives an interesting illustrated account of the water-supply and disposal of fæcal matter and drainage in a British Guiana village. He urges the village authorities to make better use of the excellent rules laid down for them by the Local Government Board. Dr. E. P. Minett, assistant Government bacteriologist, contributes a note on three cases of anthrax infection in man from the Public Hospital at Georgetown. Two ended fatally; the third, which seemed to be a case of secondary infection of quite a mild type, recovered. The latter half of the annual is taken up by a report on the Second International Scientific Congress on Leprosy, held at Bergen in Norway, some clinical notes by Mr. Q. B. de Freitas, Mr. J. A. Robertson, and Mr. C. E. S. Mitchell, and a Report of the Transactions of the British Guiana branch of the British Medical Association for 1909 and 1910. In the last section an account is given of the Public Health, with statistics chiefly from the surgeon-general's and other reports.

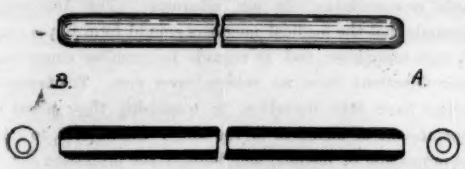
Operative Chirurgie der Harnwege: Normale Anatomie und Chirurgische Pathologische Anatomie. Von J. ALBARRAN, Professor für die Krankheiten der Harnwege an der Medizinischen Facultät zu Paris, Chirurg am Hospital Necker. Ins Deutsche übertragen von Dr. EMIL GRUNERT, Spezialarzt für Chirurgie in Dresden. Dritte Lieferung mit 252

teils farbigen Figuren im Text. Jena: Gustav Fischer. Pp. 721–1063. Price 9.50 marks. This is the concluding portion of this translation into German of the well-known text-book of Professor Albarran. It is illustrated with all the plates and figures which appeared in the original. The translation has been well made, and the book should have a wide circulation in German speaking countries.

New Inventions.

A NEW STRICTURE GUIDE.

THIS instrument which I have devised consists of a short hollow tube, size No. 12 catheter, length 8 inches, made in metal and gum-elastic. The internal diameter is less than that of a No. 12 catheter, owing to greater thickness of the wall of the tube, as the lumen is only intended to receive small catheters and bougies, not the larger ones, owing to the nature of the use for which it is devised. The opening at one end, A, is concentric, that at the other end, B, being eccentric, even more so than represented in the diagram, so that the outer and inner surfaces at one part of the circumference run into one another. This instrument will often be found valuable in difficult cases of narrow urethral strictures where other procedures fail. The guide is passed into the urethra and shouldered down on to the face of the stricture. A small soft catheter, or bougie, is then inserted into the



lumen of the guide. If the opening of the stricture be concentric and the appropriate end, A, of the guide face it, the catheter or bougie will pass at once through the opening of the stricture or after a little manipulation. If this be unsuccessful, however, the guide is removed from the urethra, reversed and reinserted, so that the eccentric opening B now faces the stricture. The catheter or bougie is again inserted and manipulated in the usual way, whilst the guide is gradually rotated till its and the stricture's openings are facing, when they can be caused to pass through and onwards. After successful passage the guide is removed from the urethra, the catheter or bougie meanwhile and after being retained *in situ*. This device is most useful in these difficult cases, as will be realised after trial, and as I have experienced. If it succeeds it is the means of saving the patient from an internal urethrotomy or something much worse—namely, an external urethrotomy. The instrument is made by the Holborn Surgical Instrument Company.

G. S. THOMPSON, F.R.C.S. Eng.

Kimberley, South Africa.

TEST-TYPES FOR YOUNG CHILDREN AND ILLITERATES.

THE "common object" test-types here illustrated have been arranged to correspond as nearly as possible with the letters of Snellen's types—$\frac{6}{6}$, $\frac{6}{9}$, $\frac{6}{12}$, and so on. The limbs and minor characteristics of animals and parts of common objects cannot always be in the same relative size as the limbs of letters are to their scientific arrangement for Snellen's types. The trunk of the elephant or the antennæ of insects must, in order to strike the eye by their similitude, be shown of a relatively larger size as compared with the bulk of the animal or insect. The body being compared to the thicker parts of the letter and the legs to the thinner parts, it is evident that in true proportions the trunk of the elephant, antennæ, &c., or similar distinctive marks of an animal would be on too small a scale to be visible at the distance at which the grosser parts would be clearly seen. These grosser parts would be unrecognisable without the smaller characteristics, so each figure has been drawn of such a size that it may be recognised as a whole by a person with normal vision at the distances for which it is marked for use. A standard letter, or letters, is given on each line as a comparison, and it will be noticed that this is often very much smaller than the common object, but for ordinary sight it will be found to be just as clearly defined at the marked distance. It is not contended that these types can in any way supersede the use of Snellen's types, nor that when the figure is distinguished at the distance marked anything more than an approximate

appreciation of the acuity of vision can be ascertained. It is of great importance in some cases to gauge the vision of young children before they know their letters. Other children decline to recognise letters who would be proud to show their acquaintance with animals and other objects of interest. The types may also be useful for persons of weak intellect, or for natives unacquainted with the Latin letters.

The cards are to be obtained from Messrs. F. Davidson and Co., 29, Great Portland-street, London, W.

H. BEALE COLLINS, M.R.C.S. Eng., D.P.H.

Kingston-on-Thames.

ESTABLISHMENT OF A SCHOOL CLINIC AT NELSON.—Nelson, a Lancashire town of 34,000 inhabitants, has resolved to establish a school clinic in the town at a cost of £300 per year or a ½*d.* rate. The scheme includes the appointment of a full-time nurse, while the school medical officer is to give a minimum of one half-day per week in connexion with the clinic. The chairman of the Education Committee, in introducing the motion for the establishment of the clinic, said that the medical officer in his last report stated that he had examined 1465 children, relatively one-quarter of the children, in their schools. There were 103 with slight defects of the throat and 54 who required immediate treatment. If they multiplied that number by four they had 216 children that required immediate treatment, and 412 with slight defects. Among one-fourth of the children examined there were 146 with slight defects of the eyes, and 81 who required spectacles, and over 300 who were suffering from lung complaints, chest troubles, &c. There were 1000 children who had five or more bad teeth, and over 150 cases of defective hearing requiring immediate attention. A large number of people seemed to think they were making an innovation by the establishment of a school clinic. From the national medical officer's report for 1910 there were 47 authorities who had employed a school nurse, 12 who subscribed to nursing associations, 72 who provided spectacles, 34 who made contributions to hospitals, and there were 31 authorities who had school clinics of their own. There were 16 who had dental clinics, and 12 had open-air schools. The estimated cost of the scheme was £300, but a large proportion of the third hundred was for preliminary equipment, including £20 for eyesight apparatus, £30 for rent, and £50 for other apparatus, &c. There would be £100 for the nurse and £100 for the medical officer. The sum does not, however, include payment for the services of a dentist.

THE LANCET.

LONDON: SATURDAY, OCTOBER 5, 1912.

The National Insurance Act.

THE National Insurance Act Regulations will be found published in our columns this week, and we are certain that they will be considered with that close interest by all our readers which their grave importance warrants. That interest will be sadly lessened by the fact that the Regulations contain no figures, and we have as yet no certain information upon this matter to lay before our readers. The actual question as regards remuneration is whether the Government will ask Parliament at the opening of the session to supplement the funds already available under the Act by a further grant, and it is practically certain that the Commissioners will advise this course. Putting aside, however, as we must do, the question of remuneration until we know what offer it is proposed to make to the profession, we can now ask—How far do the Regulations meet the minimum demands of the British Medical Association? On Feb. 29th, 1912, the newly appointed State Sickness Insurance Committee of the Association sent a letter to the National Health Insurance Joint Committee setting out the following as the six essential principles of professional requirements in the policy of the Association with respect to the National Insurance Bill:—

(1) An income limit of £2 a week for those entitled to medical benefit; (2) free choice of doctor by patient subject to consent of doctor to act; (3) medical and maternity benefits to be administered by Insurance Committees and not by Friendly Societies. In connexion with the question of the method of administration of medical benefit, the Representative Meeting resolved that all questions of professional discipline should be decided exclusively by a body or bodies of medical practitioners, and that the power of considering all complaints against medical practitioners should be vested in the Local Medical Committee with a right of appeal to a Central Medical Board to be appointed for that purpose; (4) the method of remuneration of medical practitioners adopted by each Insurance Committee to be according to the preference of the majority of the medical profession of the district of that committee; (5) medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service. After careful consideration the Representative Meeting resolved that the policy of the Association be to claim 8*s.* 6*d.* as a *minimum* capitation fee, not including extras and medicine, for members of approved societies, and to claim the recognition of payment per attendance, in which case the fees must be on such a basis as shall be deemed an equivalent by the State Sickness Insurance Committee with recognition of a £2 *maximum* income limit; (6) adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the Insurance Committees, and statutory recognition of a Local Medical Committee, representative of the profession in the district of each Insurance Committee.

Dr. ALFRED COX, as acting medical secretary of the Association, stated on Feb. 29th of this year that the six points constituted the irreducible minimum demand of the Association. The position has been altered by the fact that the British Medical Association has broken off all communication with the Commissioners, believing that no practical purpose has so far been served by negotiations.

Refer now to the six minimum demands of the medical profession in the order in which they are set out above. We find that the Regulations do not specifically provide for (1) an income limit of £2 for those entitled to medical benefit, but the limit which is contemplated may be this in some districts. (2) Free choice of doctor subject to the consent of the doctor to act is given in the Act; and (3) the administration of medical and maternity benefits is given to Insurance Committees. (4) Five different methods of remuneration for medical attendance are given as alternatives, but (5) the actual figures of the remuneration remain to be settled; and (6) the demand for adequate medical representation on the Local Insurance Committees is, of course, not affected by the Regulations. Concerning the fifth and sixth points we say nothing now; for, in the first instance, the cash offer of the Government is still unpublished, and in the second the medical profession is known to consider that on the Local Insurance Committees, as now constituted under the Act, their representation is not adequate. The Association demands that the medical members should form 10 per cent. of each committee, and as regards the smaller committees their objections have, we believe, been met. The Commissioners have full discretion, in exercising their power of appointment of members of the larger committees, to raise the proportion of medical men here, if the profession should decide to work the Act.

The second point has been entirely conceded, though Section 15 of the Act contains one subsection capable of limiting its benefits; and so in a sense has the third, but again here it must be remembered that although the medical benefits are not to be administered by Friendly Societies they are to be administered by the Local Insurance Committees, to whose constitution objection has been taken as giving a too preponderating influence to the societies.[1] The amendment in the Report stage, by which the size of the Committees was increased without increasing their medical element, was very prejudicial to professional interests. The question under the third heading is whether the serious enlargement of these Committees, to the prejudice of medical representation upon them, has rendered them bodies with which it would be unsafe for medical men to work, inasmuch as the scientific and professional views could easily be over-ridden; or whether the profession, with the assistance of Local Medical Committees, should not be willing to give the scheme a trial if this objection were the main one. It will be in the full knowledge of the Local Insurance Committees that unless the medical and maternity benefits are administered alike in accordance with the principles of progressive medicine, and in a manner consonant with the right principles of medical practice, the arrangements may at once break down; and however utterly opposed the representatives of the clubs may be to any possible allocation of money to medical benefits which can be avoided—and how strongly this principle is inherent among them has recently been

[1] Vide THE LANCET, Nov. 11th, 1911, p. 1344.

shown—they will hesitate to bring about a position in which they might lose all medical service worthy of the name. For our part, we believe that the risk which the medical profession will run in working under the Act, while the medical and maternity benefits are administered by the Insurance Committees as now constituted, is not so serious a one as it has been held to be, because we cannot believe that the officials of the clubs have any serious hope that they will be able to hold the medical profession in the subjection of past days. We regret as much now as we did when the unfortunate alteration in the Bill was made, the constitution of those committees, but the attitude of the medical profession is far better understood by the public now than it was some months ago, and if under the provisional regulations the profession decides to try to work the Act the Local Insurance Committees may be expected to give their best assistance. It is hardly fair to assume that the Committees will not try to do this, while their foolishness if they attempt to pursue any other course leaps to the eyes.

We have said above that the Regulations provide for an income limit that may possibly be £2 a week for those entitled to medical benefit. The Insurance Committees are given the power to fix a limit within the jurisdiction of any Committee beyond which persons who desire to receive medical benefits will be instructed to make their own arrangements for receiving treatment, medicine, and appliances. Within any general rule that the Committee may lay down, power will be reserved so that individuals or particular classes of insured persons can be exempted from the application of the fixed limit, and all the circumstances are to be decided by the Committee on representations from the Local Medical Committee on the one side or from the representatives of the insured persons on the other. Also, any medical practitioner, included on the medical list for the district, may dispute, by written communication to the Local Insurance Committee, the right of any insured person to receive medical benefit on the ground that his income is above the limit fixed by the Committee. This Regulation (No. 13, with its six separate subheadings) should be studied carefully by all medical men. It has not the simplicity of the demand of the British Medical Association, that no person with an income above £2 should be entitled to medical benefits; it introduces considerable administrative difficulties in fixing the limits for various localities, and we can understand that individual cases of hardship for practitioners or for insured persons might arise out of it. On the other hand, it is a frank recognition of the fact that among the community who are below the income-tax limit are many who are not proper subjects for medical benefit under the National Insurance Act, a point of view which, when it was put forward by medical men a year ago, was scouted by one section of the political press, and by a good many persons who should have been better informed. Moreover, it concedes fully a principle which has been urged freely by critics of the Act from the beginning—viz., that the conditions of medical service are particularly difficult to legislate for, because payments ought to be made on different scales in different localities, the conditions of medical practice varying much with the class of work and rates of payment in the locality, with all sorts of local personal conditions and environment, and, inside any given locality, with the character of the work of any section of the population. It should be noted that here also the constitution of the Insurance Committees is greatly in question. If the Committees do what must give considerable difficulty to themselves, and go into the problem—for it may in some instances be a veritable problem—of what the limit should be for different localities, and will thus fairly and promptly consider all representations made to them, whether by the representatives of the insured persons or by the Medical Committees or by individual practitioners, we think that the Regulations might satisfy those who are now insistent on a £2 limit. We say this with no particular conviction, but it must be conceded by all that to associate a maximum remuneration, either as a flat-rate or as fees for special services, with a low income limit will be very difficult.

We come now to the fourth point, which demands that the method of remuneration of medical practitioners adopted by the Local Insurance Committees should be in accordance with the preference of the majority of the medical profession of the district. The Regulations provide payment on the five following bases: by capitation, by capitation with payment for special services under three variants, and by payment for attendance only. On reading the Regulations it is not easy to grasp at once the significance of the alternative methods of remuneration. The capitation system is well understood by all, and, as our columns during the last year have testified, it is approved of by some for its many conveniences and cordially detested by others. The evils of payment by capitation, however, have largely arisen out of the fact that the remuneration has been of late years getting worse, this being due to the ability of the Friendly Societies to play off one medical man against another; while the social standing and wages of many of the club patients have been getting better. The rate of payment was fixed at the outset by medical men largely out of philanthropy, and at a time when the expenses incidental to medical practice and to entering the medical profession were much lower; the original rate has been maintained, while many of the patients are no longer of the class for which club practice was originally designed, while the cost of medical education and of running of a practice has doubled. If these things are duly considered in fixing the sum to be paid as a capitation fee for each insured person the objections to the system, as a system, will be largely met. The minimum capitation fee has been fixed by the British Medical Association at 8*s.* 6*d.*, exclusive of extras.

If it can be shown that any of the other alternatives in the Regulations will work with equal simplicity they will, we think, be preferable to the capitation system, in spite of the strong arguments in favour of this plan, but on looking at the alternative schemes proposed by the Regulations we do not think that anyone will find their simplicity to be their salient quality. The last scheme (Schedule I. Part II. E.) provides for giving payment for work done, pure and simple,

but schemes B, C, and D are by no means so straightforward. They are as follows:—

B. Capitation system *plus* payment for special services. Here, the first charge on the money received is the payment of the agreed flat-rate, the surplus, as far as it goes, being employed to pay for special services.

C. Again, capitation system *plus* payment for services. Here the money, as far as it goes, is divided up in such a way that half the money available for each person is used in payment of the flat-rate, and the rest in payment for services, as far as it goes.

D. Payment for special services *plus* capitation system. Here the first charge on the moneys received is the payment for special services, the surplus as far as it goes being divided for capitation rates.

In all these schemes it will be seen that the medical man runs the risk of the surplus not being sufficient to meet his just claims. If C is on the whole the safest, D puts the highest premium on the work of the most esteemed practitioner—it is the clearest expression of "freedom of choice of doctor." It has always been objected that in the Act, which medical men did not invite, they have been expected to bear the risk of the national insurance against invalidity, and ingenious as these various methods of remuneration are, and well as any one of them might work in certain conditions and certain localities, that risk still remains. It must not be forgotten, in any response to the proposals of the Commissioners, and should certainly be provided against by the institution of some central fund whereby the discounted payments of one year could be counterbalanced by premium payments in another. Such a provision should not be beyond the ingenuity of the Commissioners, who cannot be called devoid of expedients. The element of doubt about the payment is a serious matter. It is true that before payment is made the accounts for special services have to be passed by a committee appointed by the practitioners included in the medical list, and this is intended to prevent any undue claims being made by one practitioner at the expense of other medical men on the panel, and thus to ensure that there will be enough money found to pay adequate fees for all special services rendered in keeping with the claims of the best medical knowledge; but we feel that the position of the practitioner requires other safeguard. He is called upon to undertake the insurance of the nation against certain risks. He did not invite the position, and he should be placed as far as possible in a position of complete security.

It is to the third alternative method of remuneration (Schedule 1, Part 11, E.) that we direct the particular attention of our readers, for this is the way in which the Regulations meet the demand of practitioners for payment by attendance. The scheme is that fees should be charged by the medical men under the usual headings of attendance at the surgery or dispensary, ordinary visits at the house, special Sunday or night visits at the house, and consultations for surgical operations. Also the setting of fractures, the reduction of dislocations, and the administration of general anæsthetics are put down as forms of medical benefit which would be expected from the practitioner. The Local Insurance Committee will decide with the practitioners what fees should be charged, and pay out of the sums available for the provision of medical benefit, so far as the funds available permit, the same proportion being paid on the account of each practitioner, but with the provision, already alluded to, that all the accounts will be submitted to a committee appointed by the practitioners, who will have the power of scrutiny and reduction. If any locality adopts this scheme and is able to obtain from the Local Insurance Committees an adequate tariff of fees, it is obvious that an enormous amount of administrative preliminary detail will be done away with. It is not possible at the present moment to say anything more definite than this on the subject, which will, we have no doubt, be thoroughly discussed, with the other Regulations, at the Special Representative Meeting of the British Medical Association, which will be summoned to hear and decide upon the report of the State Sickness Insurance Committee of the Association with regard to the Provisional Regulations. The Association, recognising almost from the first that it would be impossible to obtain unanimity of opinion, either in the medical profession or within the Association, as to whether a system of payment by capitation or a system of payment by attendance is preferable, has provided schemes for a public medical service under each heading. Under the Regulations similar flexibility is now proposed, or even more flexibility, for five schemes are, as we have seen, put forward as alternatives, and thereby a chance of a settlement, though it be only a temporary settlement, may have been increased. But we view with apprehension the consequences if after trial of any or of all of these assorted schemes fair remuneration and fair treatment for the medical profession cannot be provided. Any medical man who chooses can withdraw, it may be said. And any other medical men who choose can abstain from replacing him. But in this sort of local quarrelling, dependent on a system of local bargaining, we consider that the chance of the medical profession winning the contest, however just our cause, is very slender.

Lastly, we desire to draw attention to Paragraph 48, which occurs in Part IV. among the special provisions of the Regulations, and provides for the establishment of a subcommittee to hear complaints. One of the principal objections made from the first by the medical profession to the method in which it was proposed to deal with the administration of medical benefits under the National Insurance scheme was the fact that a large proportion of the profession might find themselves under lay employers to such a degree that they would be at the mercy of any who chose to complain of the way in which their services were rendered, and would be also at a disadvantage if they in their turn desired to complain of the manner or spirit in which their services were received. To the third of the minimum demands of the British Medical Association there was accordingly added a proviso that all questions of professional discipline, and all complaints against medical practitioners in respect of their work under the Act, should be heard by the Local Medical Committee with a right of appeal to a Central Medical Board. The Regulations provide for a Committee of Complaints, consisting of three persons appointed from the representatives of insured persons, three persons from among the medical practitioners concerned, and a chairman selected from those members

of the Insurance Committees who, being appointed either by the county council or by the Commissioners, are neither insured persons nor medical practitioners. This chairman is to be elected, if they can agree on the matter, by the six other members of the Committee, otherwise he will be nominated by those from among whom he has to be chosen. The procedure of this Committee has been carefully thought out in such a way that in cases of complaint, whether made by medical men against insured persons or by the insured against a medical practitioner, justice ought to be done by a body of persons thoroughly well posted in the medical side of the circumstances. The Local Medical Committee is itself to consider the complaints of one practitioner against another. A central committee of inquiry is also constituted, composed of two medical men and two laymen, one of whom shall be a lawyer, to consider the question of removing a practitioner from the local panel. The machinery set up is not the same as that demanded by the British Medical Association, but no tribunal which does not admit of representation of public interests will be acceptable to the public. It will be noted that all charges brought by one medical man against another—that is cases where apparently only professional circumstances are involved—are to be inquired into by a committee formed wholly of medical practitioners.

We recommend our readers to study the Regulations very closely; they will be helped in so doing by the notes upon them which we publish with the Regulations, and which have been furnished by the medical members of the Advisory Committee. The State Sickness Insurance Committee of the British Medical Association will shortly report upon the Regulations, and while they cannot fail to see in them a genuine desire to meet the legitimate demands of the medical profession—as shown, for instance, by the setting up of a professional tribunal to deal with professional questions and by the attempts to preserve the good-will of private practices and to prevent profit being made by clubs out of the practitioners' work—they may still decide that the irreducible minimum demands of the Association are not sufficiently met. On the situation that will then arise the profession must be ready to decide. Will they, recognising the frankly experimental character of the Government scheme, give it a trial, if the pecuniary arrangements are satisfactory? Certainly this course should not be dismissed until after the most anxious deliberation on the very serious alternatives. Nothing more definite can be said while the question of money remains in abeyance, but the Chancellor of the Exchequer stated to the medical members of the Advisory Committee, who on Wednesday placed before him the need for supplementing the funds available for medical remuneration, that he would confer with the Cabinet at the earliest possible date, and make known their decision in the third week of the month.

LISTER INSTITUTE OF PREVENTIVE MEDICINE.—Owing to the appointment of Dr. H. R. Dean to the chair of Pathology in the University of Sheffield, he will be unable to deliver the lectures of which notice has been given. The remaining lectures in the October to December course will be given as announced.

Annotations.

"Ne quid nimis."

THE WORK OF THE GOVERNMENT LABORATORY.

ACCORDING to the report recently issued by Dr. James J. Dobbie, the Government chemist, upon the work of the laboratory for the year ended March 31st, the duties performed by the staff are of a varied character. This is obvious from the fact that the analyses now include the examination of samples in connexion with the assessment of revenue and drawbacks; of stores supplied to Government departments on tender and on contracts; of dairy produce imported into this country; and of samples referred by magistrates under the Food and Drugs Act and by the Board of Agriculture and Fisheries under the Fertilisers and Feeding Stuffs Act. In addition a large number of questions is referred to the staff for advice, and investigations are conducted in connexion with such references and with the inquiries of Royal Commissioners and Parliamentary and Departmental committees. With this growth of the demand on the energies, skill, and laboratory work of the staff it became apparent that the arrangement under which the laboratory staff was composed entirely of revenue officers, appointed by and subject to the authority of the Commissioners of Customs and Excise, was no longer a satisfactory one. Early in 1911 a new department was constituted under the official title of "The Department of the Government Chemist." The staff was reorganised, and while it was decided to continue to utilise the services of the revenue officers for purely revenue work, chemists were recruited from the open market for non-revenue work. The greater part of the work is conducted at the Government laboratory in Clements Inn Passage, to which it was transferred in 1897 from the old laboratories at Somerset House. There is a branch laboratory for revenue work at the Custom House. The total number of analyses and examinations made in the two branches of the Government laboratory during the year ended March 31st, 1912, was 195,170, as compared with 186,044 for the preceding year. Including the samples examined in the provincial stations, the total number of analyses and examinations for the year was 345,181. The following are some interesting points in the present report. Samples of beer, amounting in all to 7464, taken from the premises of retailers, showed that 6·1 per cent. of them had been diluted, but no illegal ingredient was discovered. Of 1046 samples examined for arsenic, only 18 were found to contain the poisonous metal in excess of the limits laid down by the Royal Commission on Arsenical Poisoning (1/100th grain arsenious oxide per pound or per gallon). Cider appears to be a term wrongly applied in some cases to beverages. The great majority of non-alcoholic ciders, so-called, are entirely free from apple juice, and are simply solutions of sugar, aerated, flavoured, and coloured, as was shown when some of the recipes were followed. The Merchandise Marks Act ought to act effectively here. The industry in spirits seems to be conducted with satisfactory results from the point of view of excise. Cases of "grogging" were found out, a practice which extracts alcohol from the wood of spirit casks by soaking with water. Spirit was found in some liqueur chocolates, 6 to 12 per cent. of proof spirit being found in some samples, while two contained as much as 25·0 to 28·8 per cent. Some years ago we drew attention to the alcohol found in the sweets supplied in the automatic machine. Wines apparently give little trouble, but unfermented grape juice has been found to contain "a chargeable proportion of spirit." A large

number of samples of tobacco was examined with a view to finding whether they conformed to the legal limits as regards moisture and oil, but the results are not recorded. Samples of sugar seem on the whole to be correctly declared as regards rating purposes. Certain samples of tea were rejected as containing sand or other foreign matter, or as being on other grounds unfit for human consumption. "Bush tea" was found to be neither botanically nor commercially the substance referred to in the tariff as tea. Coffee and chicory, cocoa and chocolate, appear to give little trouble from a revenue point of view. Seventy-eight samples of medicines were examined during the year in connexion with the Medicine Stamp Acts. These Acts impose duties upon preparations advertised for the cure or relief of human ailments. There are, however, certain exemptions, and in these cases an analysis is required. In one case pills were advertised as a remedy for obesity, and proceedings were taken. It was held that obesity was an ailment within the meaning of the Acts, and the seller was convicted of an offence. The record of work done for the various Government departments is full of interesting information, and even cases under the Old Age Pensions Act are referred to the Government laboratory in connexion with entries of births in Bibles or prayer-books produced as evidence of the age of the applicant. In the course of the year 13 documents were submitted for examination on account of their suspicious appearance. In six of these cases it was found that the writing was of recent date, or that it had recently been tampered with. Under the Sale of Food and Drugs Act 93 samples were referred by the magistrates to the Government chemists for opinion. In 73 cases the result of analysis given by the public analyst was confirmed, while in three cases (of milk) no certificate was issued. From all this it is evident that the Government laboratory is a great and important department of the State, and the annual reports issued by its principal deal with a branch of statistics of the utmost concern to the community. It is an interesting collocation of fiscal matters and scientific records.

NEO-MALTHUSIANISM AND EUGENICS.

IN the discussion of social questions from the eugenic standpoint, which has been very much the fashion of late, a good deal of attention has been given to the effect on racial quality produced by the growing practice of limiting offspring; and though opinion on the matter is, of course, very much divided, the more prevalent view would certainly appear to be that this practice, as was predicted many years ago by Darwinian critics of neo-Malthusianism, has tended to diminish the reproduction of the more intelligent members of the community, while the inferior stocks have continued to propagate freely. The advocates of neo-Malthusian doctrines have recognised the necessity of meeting this grave objection, and the task has been attempted in a pamphlet just published under the title of "Neo-Malthusianism and Eugenics." To the criticism that the limitation of offspring operates chiefly on the best stocks and little, if at all, on inferior stocks, the answer given is, first, that, even if this be true, the higher birth-rate of the unfit is in a great measure counterbalanced by the higher infantile mortality in the poorer classes; and, secondly, that if restrictive methods are not used by these classes it is only because of the obstacles put in the way of the neo-Malthusian propaganda. Neither of these pleas, however, is satisfactorily established. The infantile mortality amongst the former classes is, no doubt, relatively high, but except under very abnormal circumstances it is never so high as to reduce their rate of natural increase to a level approaching that which rules in the more prosperous part of the population. The pamphlet does, indeed, suggest that such a condition of things is realised in Paris, but the only evidence given for the statement is a comparison regarding birth-rate and infantile mortality between the Elysées quarter and the poorer *arrondissements* for one single year—a test so obviously fallacious that it only brings into relief the weakness of the position it is designed to defend. Nor is the pamphlet more fortunate in the evidence adduced to support the view that the free dissemination of neo-Malthusian teaching would equalise the operation of restrictive methods. There is taken as a "definite confirmation" of opinion on this point the case of Holland, where, it is said, as the "result" of such teaching, "the birth-rate has fallen in all classes of society, and the death-rate and infantile mortality have also fallen more rapidly than in any other country," while "there seem little signs of race degeneration." No proof, however, is given of the regular distribution of the fall in the death-rate, and the only evidence for the statement as to the rarity of indications of race degeneration appears to be the personal impressions o the author during visits to the country. As for the other phenomena which it is sought to bring into relation with family restriction, it may be remarked that the statistical tables given in the paper tend to contradict rather than to support the author's view. They show, for instance, that after some 15 years of energetic neo-Malthusian teaching the infantile death-rate in Holland in 1900 was practically the same as in England and Wales, where, we are told, family restriction was up to that year confined to the educated classes. And even now the infantile mortality in the Netherlands is considerably above what is found in Ireland, a country where the absence of Malthusian practices is notorious. In view of such facts as these it cannot be said that the author has made out his case. The question, of course, is an exceedingly complex one, and further evidence is needed before a definite conclusion can be arrived at, but the facts at present available certainly go to confirm the fear that neo-Malthusianism is exercising a real and serious anti-selective influence. Efforts to conceal this unpleasant probability can only be productive of mischief, for they breed a sense of false security and disguise the dangers incident to the social and economic policy which has fostered and must continue to foster the spread of restrictive practices in the educated and provident classes of the population. On this ground, if on no other, the neo-Malthusian doctrine is detrimental to the interest of the community.

HÆMATOPORPHYRINURIA AS PART OF A FAMILIAL SYNDROME.

Professor Lewellys F. Barker and Dr. W. L. Estes have had under their care a patient exhibiting symptoms of such peculiar interest that they have thought it worth while to publish a preliminary account, which will be amplified and perhaps illuminated when the laboratory investigations which are now in progress have been completed. The patient, whose case is reported in the *Journal of the American Medical Association*, August 31st, 1912, was an unmarried woman, 18 years old, who for over a year had been passing dark urine, losing weight, and suffering from attacks of nausea and vomiting, with pain in the right lower abdomen. During the weeks spent in hospital the hæmatoporphyrin which rendered the urine dark was still excreted, except during certain convulsive attacks which supervened. These attacks, the onset of which was preceded by swelling of the thyroid, exophthalmos, tachycardia, and slight fever, were characterised by bilateral clonus and loss of consciousness; each fit lasted about two minutes,

and they occurred in short series or groups. The urine contained acetone, but no diacetic acid, and the hæmatoporphyrinuria ceased for the time. There were no evidences of tetany. As the attacks passed off it was found that the patient was developing signs of acute polyneuritis of the upper and lower limbs. Meantime an exploratory laparotomy had failed to disclose anything positive except a very distinct dilatation of the stomach and duodenum; this was subsequently confirmed after the patient's death, about six months after her admission to hospital. At this also hæmorrhagic erosions were noted in the gastric mucosa. Perhaps the most interesting feature of this case, which seems to hold a key to the pathology of hæmatoporphyrinuria, is that the syndrome had already been noted in other members of the same family. One of the patient's sisters died four years before with the same symptoms; at the necropsy dilatation of the stomach and duodenum was disclosed. Another sister was suffering similarly at the time of report; the patient's father showed signs of hyperthyroidism, and other members of the family had suffered from symptoms which might possibly be compared with those noted in Professor Barker's patient. His suggestion is that some fault of development may have been responsible for the gastro-duodenal dilatation; and that thus a source of toxin was provided by which the other symptoms—hæmatoporphyrinuria, fits, and polyneuritis—were provoked. The writers state that though in no case hitherto recorded has dilatation of the stomach and duodenum been discovered, yet in several instances the remainder of the syndrome was complete and there were symptoms of gastro-intestinal disturbance such as were probably due to gastro-duodenal dilatation.

A CREAM STANDARD.

THE regulations[1] prohibiting the use of preservatives in milk and in cream containing less than 35 per cent. of milk fat, which came into force on Oct. 1st, will in all probability have the indirect effect of raising the standard of cream. The Departmental Committee of 1901 came to the conclusion that the weight of evidence was not favourable to the establishment of official limits of fat for cream, but in view of the wide range in the quality of cream on the market it would seem desirable that the purchaser should be informed whether or not the cream is of high or low milk-fat content; for it is obviously against the principles of domestic economy to pay as much for an article containing, say, 20 per cent. of milk fat as for one containing 50 or 60 per cent. The experienced buyer would, of course, be able to form a rough judgment of the value of the cream from its appearance; but all buyers are not experienced. It has generally been considered by experts that a cream of good average quality should contain rather over than under 40 per cent. of milk fat, and in the regulations originally drafted by the Local Government Board[2] 40 per cent. was fixed as the limit of strength for cream to which boric acid, borax, or hydrogen peroxide could be added. After considering representations from various interests the Board decided to reduce the limit to 35 per cent., and the difference is perhaps not of vast importance. The interesting point is that producers of cream who desire—and in the summer months most of them probably will so desire—to add a preservative substance to their product will be obliged to keep the cream up to a standard of 35 per cent. of milk fat, and a "preserved cream" label on a receptacle will be evidence that the contents are up to that standard. It will not necessarily follow that a cream not so labelled is below that standard, but it will certainly be worth the while of producers of cream above the 35 per cent. limit, who do not add to it any preservative substance, to make it known that their product is above the standard strength. The new regulations, therefore, prepare a way for the establishment of official limits of fat for cream which, in spite of the contrary view of the Departmental Committee, is desirable and not wholly impracticable. As was pointed out in THE LANCET in a comment on the draft regulations, the Departmental Committee of 1901 recommended that only boron preservatives should be allowed in cream in an amount not exceeding 0·25 per cent.; in their final form the regulations do not place any limit on the quantity of any of the three preservative substances the use of which is permitted, but they require the percentage of boric acid to be stated on the declaratory label—a plan which will encourage producers to limit the use of the preservative to the smallest amount possible.

[1] THE LANCET, March 2nd, 1912, p. 592.
[2] Ibid.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

THE State Sickness Insurance Committee of the British Medical Association, on the nomination of the Society of Medical Officers of Health, has coöpted Mr. Herbert Jones a member of the committee. The council of the society has discussed the question of the administration of sanatorium benefit under the National Insurance Act from the point of view of medical officers of health, and has come to the conclusion that the medical officer of health should be the administrative officer within his area for dealing with tuberculosis under any county scheme, that tuberculosis officers should be on the staff and under the administrative control of the medical officer of health, except as regards clinical duties, and that the position and responsibility of medical officers of health of county districts should be fully recognised in any tuberculosis scheme. It was considered impracticable as well as undesirable that tuberculosis officers should be prohibited from treating patients at dispensaries.

PATHOLOGICAL ENTOMOLOGY IN FIJI.

ON account of the extensive damage done to the cocoanut palm industry in Fiji by various kinds of insects a trained entomologist was appointed in 1909 to give his whole time to this and other questions of economic entomology in the Fiji group of islands. Mr. Frank Jepson is the first holder of this office, and he has recently submitted a very interesting report on work carried out down to the middle of 1911. Though primarily directed to economic questions, the investigations embraced matters of disease prevention as well, to which a brief reference may be made. Fiji at present enjoys complete freedom from malaria owing to the entire absence of flies belonging to the group of Anophelinæ. There are, however, many persons in the colony who have suffered from malaria elsewhere, and continue to harbour the malarial parasites in their blood, so that if anophelines were introduced malaria might become endemic, provided conditions favourable to mosquito breeding were allowed to prevail. Conversely, Stegomyia fasciata is abundantly present in Fiji, so that if yellow fever cases were introduced this disease might easily be spread. Another mosquito-borne disease, elephantiasis, is already rife in many of the islands. The vigorous action of the United States authorities in the neighbouring region of Hawaii is referred to. Fifteen inspectors are employed in Fiji, whose daily task it is to examine all houses in a given area for likely breeding-places of mosquitoes. The inspection costs £200 monthly, and many millions of mosquitoes are prevented from reaching maturity. The importation from Texas of the small fish called top-minnows has proved very successful in preventing mosquito development, and by the courtesy of the United States administration a number of

these fish were introduced into Fiji. Dengue fever is common in Fiji, transmitted by Culex fatigans, a mosquito also associated with filariasis. This latter disease is, according to researches at present being carried out by Dr. Philip Bahr, transmitted also by Stegomyia pseudo-scutellaris. An ingenious method of trapping mosquitoes, suggested by Mr. Maxwell Lefroy in India in 1907, has been used with success in Fiji, and is worthy of mention, as it is within the reach of everyone. A box, 18 × 9 × 12 inches, lined with dark green paper, is placed on the verandah of the house, with the door open during the night; the door is shut at 8.30 A.M., and a few cubic centimetres of benzine are introduced. The mosquitoes inside die in half an hour. During a month (Sept. 9th to Oct. 7th) the total catch was 2032 mosquitoes, averaging 72 daily; on some days over 150 were caught, especially on a fine morning following on rainy weather. The flies are attracted by the shady seclusion of the box. Xenopsylla cheopis, the flea responsible for plague transmission in India, is found in Fiji. The importance of preventing admission of rats from plague-infected countries is obvious. There is unfortunately great carelessness in regard to disposal of excreta in the colony, fæces being left exposed and consequently becoming breeding places for flies. Bacillary dysentery prevalence is believed to be connected with increase of flies in the hot season. The adoption of a water method of sewage removal would obviate this danger. We have touched on a few points of pathological interest in Mr. Jepson's report. There is evidently a wide field for observation and experiment in the department of preventive medicine in this distant dependency, and one would be glad to learn that a trained observer was permanently maintained for this purpose in Fiji, the health of the colony being of an importance at any rate equal to that of its financial prosperity.

THE LONDON MEDICAL EXHIBITION.

THIS exhibition, which was held during the past week at the Royal Horticultural Hall, Vincent-square, Westminster, has matured by process of time into a most interesting display of the products of applied scientific work. Each succeeding year its claims have appealed more strongly to the members of the medical profession owing to the sincere and indefatigable efforts of its promoters to make it a real demonstration of surgical, medical, and pharmaceutical advances. The reproach against it from some quarters that it is the mere fulfilment of a trade purpose may be dismissed in view of the close interest taken in the proceedings by the large number of professional men who attend. It seems evident that they go because they welcome the opportunity of making a near-at-hand inspection of what is being done to insure that medical accessories should contribute in the closest way to successful treatment. The exhibition affords, in fact, a very convenient channel for presenting to medical men, particularly in the metropolis, the interesting developments in pharmacy, medical, surgical, and sanitary appliances, special dietetics, and so forth, which take place year by year. The exhibition this year secured important patronage from both exhibitors and visitors, and on the whole opinion inclined to the view that it was the most interesting and attractive of the series of eight which have now been held. The list of exhibitors contained names which are held in good repute by the medical profession, and the informatory attitude of the representatives at the various stalls made an inspection of the exhibits comfortable and instructive. For the most part the novelties shown have received attention in our columns, but the advantage to medical men of being able to inspect them is obvious. Among novelties there was in particular a very interesting display of electro-therapeutic apparatus, including apparatus for treatment by high-tension current, and appliances illustrating the application in treatment of radio-active agents. Optical apparatus was also a feature, and the appliances of modern surgery were well represented. Organo-therapeutic products, vaccines, sera, and so forth, formed a not less interesting branch of the exhibition, and the recent advances in pharmaceutical triumphs were exemplified by well-known houses. Special foods fulfilling particular requirements and standard germicides completed a useful and instructive display.

THE TREATMENT OF RINGWORM.

AT a recent meeting of the Medical Officers of Schools Association Dr. J. H. Sequeira read a paper on the treatment of ringworm, in which he pointed out that although a few years ago it might truly be said that the treatment of ringworm was in a very unsatisfactory condition, and that it was not possible to guarantee a cure within any definite time, yet at present the dermatologist had in his hands a weapon of certainty capable of curing the disease within a very short time. The X rays act by causing a complete epilation of the scalp, and with the hairs the spores are thrown out also. The essential factor necessary to the success of the operation is that the dose of the rays should be accurately measured by the use of Sabouraud's pastilles. As to the result, those obtained at the London Hospital deserve quoting, although they have already been reproduced in our columns. From June, 1906, to May, 1912, 2387 cases have been treated by X rays, Sabouraud's pastilles being employed. All these cases have been cured, and in no case was there any X ray dermatitis. At the beginning there were three cases of alopecia, but since September, 1906, there has not been a single case. This fact shows that with experience the risk of permanent alopecia is very small, and it also shows that idiosyncrasy in regard to the rays is very rare. The experience of the authorities in Paris and also of the Metropolitan Asylums Board in this country is that the X ray method effects a great saving in the cost of the treatment of the child, and this is sufficient to advocate its use, even if we do not consider the removal of the restriction to the education of the child which the long-continued treatment by ordinary methods involves. The paper has been published by Messrs. J. and A. Churchill.

FACIAL ERYSIPELAS AND STREPTOCOCCÆMIA.

MODERN pathological research tends to a universal confirmation of St. Paul's statement that "whether one member suffer, all the other members suffer with it." Especially is this so in the case of infective lesions which were formerly regarded as local, and circumscribed within the limits of one particular organ or tissue. The methods of blood culture now in use reveal the presence of bacteria disseminated by the circulation throughout the body, even when the outward and visible signs of infection are confined to some one locality. The interesting researches of M. Lesné, M. Françon, and M. Gérard, published in *La Presse Médicale* of Sept. 14th, afford an excellent instance of this. They have made cultivations from the blood in 66 cases of facial erysipelas, and have succeeded in growing streptococci from no less than one-third. These cases of streptococcæmia fall into four groups. First, there are cases of facial erysipelas in which streptococcæmia is discovered by blood culture, but in which symptoms of general infection are not manifest. In such recovery may take place. It is usual, however, to find hyperpyrexia and other evidences of intense septicæmia in such cases; these constitute a second group,

the septicæmic type of facial erysipelas. In a third class there are multiple abscesses in all the organs; this pyæmic type is rapidly fatal. The fourth group is in many respects the most interesting of all; in it facial erysipelas is complicated by streptococcal ulceration of the cardiac valves. The writers have come across four examples of this association; in all, streptococci were found in the blood during life and in the cardiac lesions after death. The mitral valve was usually attacked; the vegetations were not large, but they contained massive aggregations of cocci. As a rule there are no physical signs of cardiac disease, but the symptoms are those of intense systemic poisoning, and the disease runs its course to a fatal termination in a few days. In these respects the cases recorded by the writers correspond with others of a similar nature already reported in the literature.

TYPHOID PERICARDITIS.

IN the *Canadian Medical Association Journal* for September Dr. M. W. A. McNaughton and Dr. L. J. Rhea have reported a case of a very rare complication of typhoid fever—pericarditis. A youth, aged 21 years, was admitted into the Montreal General Hospital on Nov. 1st, 1910, complaining of pain and swelling in the knees and ankles and sore throat. On Oct. 1st he had severe pains in the head and body which continued for two days. He returned to work on the 8th, but on the 22nd pains developed in the legs and feet and became so severe that he took to bed. On admission the face was pale, the skin dry, and the tongue coated. The heart was hypertrophied and there was a systolic and soft diastolic murmur at the base. At the apex the systolic murmur alone was heard. The spleen was not palpable. The knees and ankles were swollen, hot, and tender. From this date until Feb. 23rd, 1911, a period of 3½ months, there continued symptoms of rheumatic fever—arthritis, intermittent precordial pain, constant heart murmurs, and profuse perspiration at irregular intervals. The temperature ranged up to 103° F. On Feb. 23rd occurred an abrupt rise of temperature to 103·4° with chilly sensations and profuse perspiration. In two hours the temperature returned to normal. After this the temperature remained below 99°, but in the second half of March it rose by steps to 104°, and symptoms of typhoid fever—diarrhœa, enlarged spleen, and rose spots—developed. On March 21st the Widal reaction was positive. On April 13th, the twenty-ninth day of typhoid fever, he was somewhat cyanosed, the pulse was small and feeble, the cardiac impulse was weaker, the sounds were distant, and he died. The necropsy showed ulcerated Peyer's patches and enlarged and softened mesenteric glands. The parietal pericardium was thickened and firmer than normal. The pericardium contained a little thick, yellowish, turbid material. Over the anterior surface of the right ventricle the two layers of the pericardium were united by fibrous adhesions. Numerous small fibrous tags were adherent to the anterior surface of the right ventricle. The exudate in the pericardium and the suppurating mesenteric glands yielded the typhoid bacillus in pure culture. Pericarditis due to the typhoid bacillus is very rare. Out of 1500 cases Sir William Osler found that acute pericarditis occurred in three, of which one was fatal. According to Menard and Brodin[1] two forms of pericarditis occur in typhoid fever—the dry and the purulent. The latter is the more common and the more severe. Possibly in the present case the previous attack of rheumatic fever played a part in determining the occurrence of typhoid pericarditis. There was evidently rheumatic pericarditis, for the patient suffered from præcordial pain.

[1] Gazette des Hôpitaux, July 2nd, 1910, p. 1083.

THE death is announced of Inspector-General Sir Herbert Mackay Ellis, K.C.B., Director-General of the Medical Department of the Navy from 1904 to 1908.

THE death is also announced of Dr. Edward Woakes, late senior aural surgeon to the London Hospital, and one of the founders of the London Throat Hospital.

TUBERCULIN DISPENSARIES AND DIAGNOSIS:

SCHEME OF CLASSIFICATION OF PATIENTS ATTENDING THE PORTSMOUTH MUNICIPAL DISPENSARY.

BY JAMES FAIRLEY, M.D. GLASG., D.P.H.,
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IN view of the great attention now directed to tuberculosis and tuberculin dispensaries and the necessity for statistics being based on comparable lines of diagnosis, it may be of interest to indicate the methods adopted in regard to the cases attending the Portsmouth Municipal Tuberculin Dispensary.

With reference to Dr. A. Mearns Fraser's report on the advisability of setting up a Tuberculin Dispensary, THE LANCET of Jan. 21st, 1911, has this paragraph:—

> If the borough authorities decide to carry out these recommendations the results obtained should be of great interest and value, but only if the strictest precautions are taken in regard to the diagnosis of the cases treated by the tuberculin method.

This is an eminently fair statement, and in justice to tuberculin we must do our best to meet it, and at the same time to meet those critics who have asserted that tuberculin statistics are based on the treatment of cases who are not actually suffering from tuberculosis. It is important, then, for us to substantiate our diagnosis in as many cases as possible by finding tubercle bacilli in the sputum; and where the organisms cannot be demonstrated under the microscope it will be well to state what facts we base our diagnosis upon; and in our statistics we must differentiate between those patients who show definite signs and symptoms of the disease, and any other cases treated because they are contacts or the so-called pretuberculous.

Routine Method of Diagnosis.

A short statement of our routine method of coming to a diagnosis may be of interest. When the history of the patient is noted and the examination made, the sputum, if there be any, is examined. When tubercle bacilli are found the diagnosis is, of course, settled. If no tubercle bacilli are found, and unless the diagnosis is considered certain from the physical signs present and a history of hæmoptyses, recurrent pleurisies, &c., the test doses of tuberculin are given. In testing we prefer the subcutaneous test to Calmette's or von Pirquet's, and a focal reaction at the site of the lesion is considered of far greater importance than a constitutional reaction or a local reaction at the site of injection, as it has not been proved that a person with a healed lesion will not react constitutionally and locally. In preference to the old tuberculin we use the albumose-free tuberculin for testing. By it one is much less apt to get a constitutional reaction than when using the ordinary old tuberculin, which contains various extractives and albumoses. This enables one to push the dose with the object of bringing out the focal reaction in a lesion. The focal reaction, such as persistent moist crepitations occurring in a patch of the lung we previously looked on with suspicion, we take to be a certain sign of involvement of the lung. The cases with merely indefinite symptoms and suspicious signs, where we have not been able to get moist sounds even on testing, are not classified as cases of tuberculosis, but are qualified under the classification of "probable" or "very probable" cases.

As regards contacts, unless they have some suspicious signs or symptoms we do not apply the tuberculin test, but are content to keep them under observation; and for this

reason, that we do not consider ourselves justified in giving what might be termed prophylactic doses to persons in contact with the infection when our time can be so fully occupied treating those who already harbour the infection. Unless under exceptional circumstances, therefore, we are satisfied with a negative clinical examination of contacts.

Patients now Attending the Dispensary.

Bearing in mind the principles which I have just enunciated upon which our diagnosis is based, let us consider the patients who are now attending. They number 299. Of these, three are contacts; they are being treated as such, and in subsequent reports of the dispensary they will be dealt with in a class by themselves. I may remark that they do not get such a prolonged course of tuberculin, as the rise of the dose is more rapid, and in some cases only old tuberculin is used. If they can be sent off to the country or the infecting cause be removed the course is stopped. Twenty-two are non-pulmonary tuberculosis, including bone, joint, or gland cases, &c., and 30 cases are being tested. This leaves a total of 244 pulmonary patients under treatment at present.

Of these 244, tubercle bacilli have been found in the sputum in 96 cases, or in 39·4 per cent. Lack of time to examine so thoroughly as one would like to has kept this percentage lower than it ought to be. I am sure that a more thorough search would raise it; in some the sputum has been examined only once. If our figure is to be compared with the percentage of T.B. positive cases in sanatorium statistics we must take this fact also into consideration—that in an institution where one has the patient more under control, a better specimen of sputum will be obtained for examination than the average dispensary specimen. Again, a dispensary must get earlier cases than a sanatorium: (1) because it does not interfere with a person's work, and therefore early first stage cases will attend when not prepared to give up work and enter a sanatorium, and (2) because we examine contacts. Another factor which keeps our figure low is the large proportion of children we are testing, and these, it is well known, are much more apt to swallow the sputum than to expectorate it. Of the 148 cases who are classed as pulmonary, although no tubercle bacilli have been found, 44 are children of 12 years and under, and in no patient of this age have the organisms been found at the dispensary.

Apart from the patients with tubercle bacilli in their sputum, there is a large number of persons presenting more or less definite signs and symptoms of lung involvement whom one wishes to treat a certain proportion of. It seems convenient to divide the 148 cases in whom no tubercle bacilli have been found, into 3 classes: (1) those in whom the diagnosis is "quite certain," who number 94; (2) those in whom it is "very probable," who number 45; and (3) those in whom it is "probable," who number 9.

The "quite certain" are those who might be described as typical textbook cases of tuberculosis of the lung. They have a history of cough with or without sputum, repeated pleurisies or hæmoptyses with perhaps night sweats or laryngeal symptoms, and the physical signs found on examination are such that the physician would grant at once that there was no doubt about the diagnosis in these 94.

"Very Probable" and "Probable" Cases.

It remains for us to justify our treatment of the 45 whom I called "very probable" cases. The following is typical of this class. The patient is usually a child in contact with an infectious parent; delicate and very liable to take colds and coughs which take a long time to clear up; other symptoms are perhaps present, such as loss of energy, night sweats, &c. In almost every case the lymphatic glands are found enlarged in the neck, axillæ, and groins; sometimes one is suspicious of the abdomen, where there are local areas of tenderness and increased resistance. At one of the apices or elsewhere the percussion note is impaired, and the respiratory murmur is broncho-vesicular in character. No moist sounds can be heard, however, and there is no sputum, or if present no tubercle bacilli can be found in it. On testing with tuberculin, constitutional and local reactions take place, but no definite focal reaction in the chest or elsewhere can be found.

There are some who will argue that the only place to prove absolutely that such a child has tuberculosis is the post-mortem table, and it is in deference to these extremists that I have picked out all such cases and classified them as "very probably" tubercular. My own opinion is that they are undoubtedly tubercular, but as we are applying rigid scrutiny let us call them "very probable" cases. The question naturally arises, Why not send them off to the country under ideal conditions where they will almost certainly do well? We do; but it is not possible in every case, and in a number where it has already been tried the symptoms reassert themselves on the patients' return to the old conditions. We have some under observation who are having no particular treatment except improved hygienic conditions; these we see from month to month. As a rule, this type of patient improves greatly with tuberculin. Time is needed before the best line of treatment is decided on—whether some can be left alone with impunity or whether we must adopt active treatment for them all; but in the meantime we are justified by their improvement in treating some at least with tuberculin.

Of the 9 classed as "probable" I will say very little. They are being treated more as contacts than anything else, but they present some signs or symptoms, though not enough to warrant their inclusion among the "very probable" cases. But for the fact that these persons are apt to be very sensitive to tuberculin their course, like that of the contacts, would be of shorter duration than the average. Their willingness to continue attending for what might be called "disagreeable" treatment proves that they themselves think they are benefiting, and as a rule the benefit in this class of case is marked. In preparing statistics their results also will be kept separate.

Conclusion.

So far as I can judge, there must be a large personal element in any scheme of classification of cases. I do not put forward the above classification as being a perfect one, but it is simple and works easily in practice. To come to a definite diagnosis in early tuberculosis of the lungs is very difficult; in the present state of our knowledge it will be granted, I think, that in some individual cases it is impossible. If we are to do anything to help these patients we must act on probabilities, and therefore in a dispensary like ours such cases must always be found. If our critics expect an absolutely certain proof of the presence of the disease in 100 per cent. for patients they will be disappointed. To wait till all our cases have "open" lesions would be to defeat one of the objects of our existence as a dispensary. But it is a simple and a satisfactory solution of the difficulty to treat them separately in our statistics, and this is what we are endeavouring to do.

REPORT FOR 1911 OF THE REGISTRAR-GENERAL FOR IRELAND.

IN his forty-eighth annual report the Registrar-General for Ireland, Sir William Thompson, gives prominence to recent further developments of the campaign against tuberculosis, to which reference was made in our notice of his previous report.[1] The campaign is being prosecuted with unabated vigour and with highly encouraging success.

Decline of Tuberculous Disease in Ireland.

Before discussing the ordinary vital statistics of the year 1911 special attention may be invited to the official account of the remarkable decline in tuberculous mortality in Ireland—a decline which Sir William Thompson associates very definitely with the foundation, in 1907, of the Women's National Health Society by the Countess of Aberdeen. This energetic society has given a much-needed impetus to the progress of sanitary reform throughout the poorer districts of Ireland. It appears that in a total population of less than four and a half millions 9623 deaths from the various forms of tuberculosis were registered within the 12 months of 1911. This total is less by 3071 (or 24 per cent.) than the number registered in the year 1904. It is in the proportion of 2·2 per 1000 living, which is the lowest mortality hitherto recorded in Ireland. With the help of a shaded chart the counties of Ireland are compared with reference to their mortality from tuberculosis in the year under notice. From this we learn that the county of Dublin suffers most severely,

[1] THE LANCET, Sept. 16th, 1911, p. 844.

the rate of mortality therein averaging 3·4 per 1000 living, the county of Antrim coming next with a rate of 2·8, whilst the counties of Leitrim and Roscommon suffer least severely, their rates being only 1·2 per 1000 of the respective populations.

An interesting table affords the means of tracing the influence of social conditions on tuberculosis mortality in the registration area of Dublin. From this it appears that among the professional and independent classes the annual loss of life from this cause was equal last year to a rate of 1·15 per 1000 living in those classes collectively. In the middle class the rate was 2·35, amongst artisans and petty shopkeepers it was 3·04, whilst among coach and car-drivers of the general service group it was 5·21 per 1000. Accordingly, the members of the latter group experienced a mortality from tuberculosis more than four and a half times as high as did the classes first mentioned.

Results of Campaign against Tuberculosis.

Among the details of genuine and permanent work already accomplished by the Women's National Health Society we notice the following which are recorded as supplemental to those included in the last annual report. The society has established about 150 branches embracing at least 19,000 members in various parts of the island. Through their instrumentality much preventive action has been taken. For example, two garden playgrounds for children have been provided in the most congested districts of Dublin, and a third is now in course of construction. The "Collier Memorial Dispensary" for the control of tuberculosis has been established for the centralisation of the work formerly performed by the Dublin Hospital Tuberculosis Committee, and a "Dublin Samaritan Committee" has been formed which is rendering valuable aid to that dispensary. The Allan A. Ryan Home Hospital and the Preventorium at Sutton have been founded for the reception of patients who have passed beyond the primary stage of the disease. A depôt for the supply of pasteurised milk has been set on foot, and, lastly, numerous "babies' clubs" have been started in Dublin and in other parts of Ireland for the care and treatment of the children of the poorer classes.

Himself a well-known physician, the Irish Registrar-General readily obtains from his professional brethren throughout the island reports of the progress of the campaign against the great white plague, as well as of the results of preventive action generally. In his previous report Sir William Thompson cited a number of typical examples of such reports from medical correspondents bearing on this subject. In the present report he furnishes further excerpts of a similar character, a few of which deserve mention here. For example, he tells us of a medical resident in one of the poorer districts who, in reporting a general improvement in the health of his parish, relates that not a single case of consumption has occurred there, either of an acute or a chronic character, for a period of two years. Such a state of things he declares to be phenomenal; and he attributes it to the better housing of the poor, who are now becoming alive to the necessity for greater cleanliness, for better ventilation of dwellings, and for the observance of sanitary precautions generally. Another practitioner, reporting the importation, two years previously, of three cases of phthisis, remarks that no further cases have since been infected from this source. This improvement he ascribes to the healthier condition of the dwellings recently provided for the working-classes, to the thoroughness of the scavenging, to the carefulness with which disinfection is practised, and to the energy with which the war against tuberculosis is being prosecuted throughout his district. In another parish the occurrence in one family of three cases of tuberculosis is traced to infection from a milch cow with diseased udder and sore teats. Yet another reporter, in acknowledging the valuable work effected in his district by the local branch of the Women's Health Association, says that in certain cases where he had himself utterly failed to persuade his patients to live and sleep with open windows, the emissaries of the association had succeeded in persuading them to do so.

Mortality from Tuberculosis.

In Ireland tuberculosis in its several forms is still the most fatal of the principal causes of death. There has been a recent increase in the reported deaths from the pulmonary form of the malady, but we learn from the text that the increase is apparent only, and is accounted for by changes in classification, in consequence whereof deaths returned as from "tuberculosis not otherwise defined" are now referred to this heading, whereas in previous years they had been classed under "general tuberculosis." From a special table it appears that, if ages be disregarded, the mortality from pulmonary tuberculosis differs but little in the two sexes. Nevertheless, in the earlier years of life, the mortality among females greatly exceeds that among males, whilst after the twenty-fifth year the male mortality considerably exceeds the female. In this latter respect the behaviour of this disease in the sister isle is similar to that in England and Wales.

Pneumonia and Bronchitis.

From a diagram it appears that in the year 1911 more than 5 per cent. of the total deaths in Ireland were referred to one or other of the forms of pneumonia, and 9 per cent. to bronchitis. Only in a minority of instances do the certificates specify the type of pneumonic disease from which the deceased had suffered. In the year under notice there was some decrease in the fatal cases of pneumonia and a much larger decrease in those of bronchitis.

Common Infectious Diseases.

Compared with the previous year measles and whooping-cough showed less fatality in the year 1911, whilst scarlet fever, diphtheria, enteric fever, and diarrhœa (with enteritis) showed a decided increase. The deaths from puerperal sepsis and from accidents of pregnancy and childbirth were fewer than in the previous year. The mortality from typhus, which had been 43 for the whole of Ireland in 1909, rose to 63 in the year 1910, but the number again fell to 37 in the year now under notice, when the loss of life from this scourge was less than in any other year on record.

Malignant Disease.

From a diagram we learn that in Ireland cancer stands sixth among the principal causes of death. The deaths returned as from one or other of its forms numbered 3582, and were somewhat fewer than in the preceding year; nevertheless, they corresponded to a rate of 82 per 100,000 of the population at all ages and of both sexes. Of the fatal cases, 1260 were certified as from carcinoma, 169 from sarcoma, and 2153 as from ill-defined forms of cancer or malignant disease. In addition to the foregoing, 54 deaths were referred indefinitely to "tumours," but in all these cases the growths are believed to have been non-malignant.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

Statistical Report on the Ordinary Expenditure of London Hospitals.

THE report for 1911, which has recently been issued, deals with the published accounts of 107 institutions (nearly all the hospitals which apply for grants from the Fund) and consists of a series of tables giving in alphabetical order the general statistical particulars, total expenditure, and cost per bed occupied and per out-patient attendance of the hospitals under consideration. Such expenditure as can be conveniently arranged in groups is analysed in detail. In a table comparing the expenditure of 1910 with that of 1911 it is shown that there has been an estimated increase of cost of £9600. This is the first time since their issue in 1903 that any of the statistical reports has failed to show a decrease in expenditure. Previous savings, which taken together amounted to £47,000 a year, are thus reduced by the present increase to about £37,000. While it is admitted that the object of these reports is in no way to discuss the cause of changes in hospital expenditure, it is pointed out that there is a tendency towards an increase in the number of special and costly treatments, the result of the developments of modern medical science, and that hospitals must also suffer financially from the increase in the rise of prices, which has been referred to in previous reports.

A second important document which has just been issued by the Fund is the

Report of the Committee appointed to Inquire into the System Prevailing in the London Hospitals with regard to the Admission of Out-patients.

It will be remembered that in 1911 the governors of the Fund appointed a committee, consisting of the late Lord Northcote, whose death deprived the Fund of much valued assistance, Lord Mersey, and the Bishop of Stepney, to inquire into the alleged abuse of the out-patient departments of hospitals, with the following terms of reference:—

To consider and report generally as to the circumstances and conditions under which patients are admitted to the casualty and out-patient departments of the London voluntary hospitals, and especially as to what precautions are taken to prevent the admission of persons who are unsuitable, and as to whether adequate provision is made for the admission of such persons as are suitable, and to make such recommendations as may seem to them desirable.

Oral evidence was taken from 48 witnesses, who included 17 medical men and 31 laymen, and written statements were received from 44 hospitals and from four personal witnesses. The committee sat 27 times. The first part of the report contains the minutes of the evidence submitted, and much interesting information is given regarding the out-patient service of London, its nature and distribution.

The general conclusions which are set out in Part II. of the report require to be read and digested as a whole for a full understanding of a subject which can be considered from several points of view; but, briefly, it may be stated that the use of the out-patient department by the well-to-do is not common, which, by the way, be it noted, is not the same thing as saying that such abuse does not exist; that the use of the out-patient department for ordinary ailments by persons able to pay small fees to medical men is in some degree prevented by the inquiry system, though it probably exists to quite an appreciable extent; and that the use of the out-patient department for the treatment of ordinary ailments by a class able to make provision for such ailments by joining provident dispensaries is common. With regard to the casualty departments, their use by persons not well-to-do but able to pay for one or two treatments is not uncommon, and it is stated that there is a tendency to extend these departments to cases obviously not emergencies, while stress is laid upon the over-crowding of casualty and out-patient departments with minor cases leading to consequent waiting, and in some instances hurried diagnosis and superficial treatment. The extension to all hospitals of the inquiry system now in force in the most highly organised out-patient departments is advocated, and many suggestions are made for the reform of out-patient and casualty departments. The report also points out that one of the main objects of out-patient organisation should be to promote coöperation between hospitals and general practitioners, and also the importance of adopting a general uniformity in the principles and methods of out-patient administration in all the hospitals of London. Finally, it is noted that the recommendations have not been considered in relation to the possible effect of the National Insurance Act, such inquiry not falling within the terms of reference.

Appreciation of the work of Mr. H. R. Maynard, the secretary of the committee, is recorded, and the thanks of the committee are given to Mr. F. M. Fry, who has been in constant attendance during the inquiry and afforded valuable assistance in framing the report.

Both reports are published at the price of 1*s.*, the first being obtainable from Messrs. Spottiswoode and Co., New-street-square, E.C., and the second from Mr. George Barber, 23, Furnival-street, E.C.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 95 largest English towns, with an aggregate population estimated at 17,639,881 persons at the middle of this year, 8267 births and 4010 deaths were registered during the week ending Sept. 28th. The annual rate of mortality in these towns, which had been 11·5, 11·0, and 11·6 per 1000 in the three preceding weeks, further rose to 11·9 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual rate of mortality in these towns averaged 11·4 per 1000, against 11·5 per 1000 in London during the same period. The annual death-rates in the several towns last week ranged from 2·5 in Ilford, 4·7 in Southend-on-Sea, 4·9 in Gillingham, 5·5 in Wimbledon and in Darlington, and 6·1 in Newport (Mon.), to 15·8 in Wolverhampton, 16·2 in Wigan 16·7 in Ipswich, 17·6 in Middlesbrough, and 18·3 in Tynemouth and in Merthyr Tydfil.

The 4010 deaths from all causes in the 95 towns were 79 in excess of the number in the previous week, and included 310 which were referred to the principal epidemic diseases, against 327 and 358 in the two preceding weeks. Of these 310 deaths, 134 resulted from infantile diarrhœal diseases, 67 from measles, 44 from whooping-cough, 41 from diphtheria, 17 from scarlet fever, and 7 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 0·9 per 1000, against 1·0 and 1·1 in the two preceding weeks. The deaths of infants under 2 years of age attributed to diarrhœa and enteritis, which had been 183, 143, and 150 in the three preceding weeks, declined to 134 last week; of this number, 47 were recorded in London and its suburban districts, 18 in Liverpool, 5 in Manchester, 5 in Sheffield, and 4 each in Walsall, in Middlesbrough, and in Newcastle-on-Tyne. The deaths referred to measles, which had been 83, 74, and 85 in the three preceding weeks, fell to 67 last week, and caused the highest annual death-rates of 1·2 in Birkenhead, 1·7 in Rochdale, 2·0 in Swindon, 2·5 in Merthyr Tydfil, and 2·6 in Tynemouth. The fatal cases of whooping-cough, which had been 52, 42, and 49 in the three preceding weeks, declined to 44 last week, and included 14 in London, 3 in Manchester, and 2 in each of the following towns—Walthamstow, Ipswich, Bristol, Birmingham, Nottingham, Tynemouth, and Merthyr Tydfil. The deaths attributed to diphtheria, which had increased from 23 to 39 in the four preceding weeks, further rose to 41 last week; 16 deaths were registered in London and its 14 suburban districts, 6 in Portsmouth, 3 in Norwich, and 3 in Nottingham. The deaths referred to scarlet fever, which had been 25, 18, and 24 in the three preceding weeks, declined to 17 last week; of this number 5 occurred in Birmingham and 2 in London. The fatal cases of enteric fever, which had been 20, 12, and 11 in the three preceding weeks, further fell to 7 last week, which was the lowest number recorded in any week of the current year, and included 2 deaths in West Ham.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily risen from 1512 to 1775 in the five preceding weeks, had further increased to 1871 on Saturday last; 305 new cases of this disease were admitted to these institutions during the week, against 228, 231, and 311 in the three preceding weeks. These hospitals also contained on Saturday last 943 cases of diphtheria, 430 of measles, 292 of whooping-cough, and 51 of enteric fever, but not one of small-pox. The 1058 deaths from all causes in London were but one more than the number in the previous week, and were equal to an annual death-rate of 12·2 per 1000. The deaths referred to diseases of the respiratory system, which had been 105, 103, and 140 in the three preceding weeks, further rose to 169 last week, and were 20 in excess of the number registered in the corresponding week of last year.

Of the 4010 deaths from all causes in the 95 towns last week, 208 resulted from different forms of violence, and 402 were the subject of coroners' inquests. The causes of 27, or 0·7 per cent., of the deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, West Ham, Hull, Newcastle-on-Tyne, Nottingham, and in 71 other smaller towns. The 27 uncertified causes of death last week included 8 in Birmingham, and 2 each in Lincoln, in Liverpool, in Rochdale, and in Bradford.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an aggregate population estimated at 1,154,150 persons at the middle of this year, 506 births and 321 deaths were registered during the week ended Sept. 28th. The annual rate of mortality in these towns, which had been 13·0, 14·2, and 14·7 per 1000 in the three preceding weeks, fell to 14·5 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Irish towns averaged 14·5 per 1000; in the 95 large English

towns the corresponding death-rate did not exceed 11·4, while in the 18 Scotch towns it was equal to 13·2 per 1000. The annual death-rate in the several Irish towns last week was equal to 17·2 in Dublin (against 12·2 in London), 14·0 in Belfast, 12·9 in Cork, 3·8 in Londonderry, 21·7 in Limerick, and 17·1 in Waterford, while in the remaining 16 smaller towns the mean death-rate did not exceed 10·9 per 1000.

The 321 deaths from all causes in the 22 Irish towns were 5 fewer than the number in the previous week, and included 26 which were referred to the principal epidemic diseases, against 24 and 27 in the two previous weeks; of these 26 deaths, 11 resulted from diarrhœal diseases, 5 from measles, 4 from scarlet fever, 3 from diphtheria, 2 from whooping-cough, and 1 from enteric fever, but not one from small-pox. These 26 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·2 per 1000; in the 95 large English towns the death-rate from these diseases last week did not exceed 0·9 per 1000, while in the 18 Scotch towns it was equal to 0·7 per 1000. The deaths attributed to diarrhœa and enteritis, which had been 17, 11, and 10 in the three preceding weeks, were 11 last week, of which number 8 related to children under 2 years of age; 6 deaths were registered in Belfast, 2 in Dublin, and 2 in Waterford. Of the 5 deaths referred to measles last week, which were slightly in excess of recent weekly numbers, 4 occurred in Limerick and 1 in Dublin. The 4 fatal cases of scarlet fever were equal to the average in the four preceding weeks; 2 deaths were registered in Dublin and 2 in Belfast. Two of the 3 deaths attributed to diphtheria occurred in Dublin and 1 in Belfast; the 2 deaths referred to whooping-cough were recorded in Limerick and in Ballymena respectively; the fatal case of enteric fever was registered in Dublin.

The deaths referred to diseases of the respiratory organs in the 22 towns, which had been 47, 41, and 51 in the three preceding weeks, further rose to 53 in the week under notice. Of the 321 deaths from all causes, 108, or 34 per cent., occurred in public institutions, and 8 resulted from different forms of violence. The causes of 8, or 2·5 per cent., of the total deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

THE undermentioned Lieutenants, from the Seconded List, are restored to the establishment (dated Oct. 1st, 1912): Alexander G. Biggam and James L. Huggan.

Surgeon-General L. E. Anderson, Deputy Director of Medical Services, Eighth (Lucknow) Division, Southern Army in India, has been transferred from Bareilly to Lucknow Cantonment.

Lieutenant-Colonel H. H. Brown, commanding the Station Hospital at Aden, has been appointed Senior Medical Officer on board the transport s.s. *Rewa*, leaving Bombay for Southampton on Oct. 10th. Lieutenant-Colonel J. Donaldson, senior medical officer at Kuldana, has been selected for appointment to command the Station Hospital at Rawal Pindi Cantonment. Lieutenant-Colonel H. Carr, at present holding charge of the Military Hospital at Ambala Cantonment, has been selected for the increased rate of pay under Article 314 of the Royal Warrant. Lieutenant-Colonel E. M. Hassard has been transferred from Lahore to command the Station Hospital at Karachi.

Major A. H. Safford, specialist in the prevention of disease at Fyzabad, has been appointed Deputy Assistant Director of Medical Services (Sanitary) to the Eighth (Lucknow) Division, in succession to Major H. W. Grattan. Major R. C. Lewis has been transferred from Pembroke Dock and appointed Senior Medical Officer at Pembrey Camp. Major C. W. H. Whitestone, staff officer for Medical Mobilisation Stores in the First (Peshawar) Division of the Northern Army in India, has taken up duty at Cherat Cantonment. Major F. E. Gunter has been transferred from the Military Hospital at Lucknow to Meerut Cantonment for duty. Major W. S. Crosthwait has taken over Medical Charge at Mal Bay Camp, on transfer from the Military Hospital at Fermoy. Major W. J. Taylor, on the termination of his leave of absence from Sierra Leone, West Africa, has been appointed to the Eastern Command for general duty pending embarkation for service abroad in January next. Major W. E. Hudleston has taken up duty at Tidworth Military Hospital, Salisbury Plain, on transfer from Portsmouth. Major H. K. Palmer, lately specialist in operative surgery to the Seventh (Meerut) Division, has been transferred from Colaba to Belgaum. Major E. P. Hewitt has joined for duty at Kamptee. Major R. L. Argles, staff surgeon at Steamer Point, Aden, has been appointed for duty on the transport s.s. *Rewa*. Major C. E. P. Fowler, specialist sanitary officer at Gibraltar, has arrived home on leave of absence. Major G. J. Houghton has been appointed to the London District for temporary duty pending embarkation for service abroad. Major P. S. Lelean, on the expiration of his leave of absence home from India, has been transferred to the Home Establishment. An exchange on the roster for service abroad has been approved by the Director-General between Major J. Hennessy and Major W. J. P. Adye-Curran, specialist in operative surgery at Cosham, the former being now detailed for duty with the Southern Army in India. Major A. E. C. Keble has taken up duty as Deputy Assistant Director of Medical Services in the Scottish Command. Major J. G. Churton has been granted six months' leave of absence home from India. Major F. Kiddle has taken up duty at Colchester Military Hospital and has been appointed Specialist in Ophthalmology. Major G. G. Delap, assistant instructor at the Royal Army Medical Corps Depôt and Training School, Aldershot, has embarked for a tour of service in South Africa. Major L. L. G. Thorpe has been transferred from Beaulieu Camp to the Military Hospital at Cosham. Major R. J. Blackham, specialist sanitary officer to the First (Peshawar) Division, has taken up duty at Cherat Cantonment.

Captain R. R. Lewis has been selected for appointment as Specialist in Dermatology and Venereal Diseases at the Connaught Hospital, Aldershot Command. Captain A. B. Smallman has been appointed a Specialist in Bacteriology, and has taken up duty in the London District at the Queen Alexandra Military Hospital, Grosvenor-road. Captain F. A. Stephens has been transferred from the Military Hospital at Rawal Pindi to Gharial Cantonment. Captain R. V. Cowey has joined the Military Hospital at Tidworth, Salisbury Plain, on transfer from Perham Down Camp. Captain E. M. O'Neill and Captain G. B. F. Churchill have been appointed for duty on board the transport s.s. *Hardinge*, which left Bombay for Southampton on Oct. 2nd. Captain H. V. Bagshawe has been placed under orders for a tour of service in Egypt, and on arrival will be appointed Specialist Sanitary Officer. Captain W. Davis has been transferred from the Military Hospital at Meerut Cantonment to Naini Tal. Captain C. G. Thomson, on termination of special duty at the Royal Army Medical College, has been appointed to the Military Hospital at Glasgow. Captain C. P. O'Brien-Butler has been granted leave of absence for eight months home from India.

INDIAN MEDICAL SERVICE.

Colonel D. St. J. Grant, Assistant Director of Medical Services in the Derajat and Bannu Brigades of the Northern Army, has arrived home on leave of absence from India.

Lieutenant-Colonel W. H. E. Woodwright, civil surgeon at Bareilly, has been granted six weeks' privilege leave of absence. Lieutenant-Colonel F. P. Maynard has arrived home on leave of absence from India. Lieutenant-Colonel E. Wilkinson has taken up duty as Sanitary Commissioner in the Punjab.

Major E. F. G. Tucker has been appointed to officiate as Curator of the Pathological Museum at the Grant Medical College, Bombay. Major C. A. Sprawson has taken up duty at King George's Medical College, Lucknow, as Professor of Physiology. Major S. R. Christophers, Assistant Director of the Central Research Institute, Kasauli, has been granted 15 months' leave of absence home from India. Major J. C. Robertson, officiating sanitary commissioner in the United Provinces of Agra and Oudh, has taken up duty at Simla as Sanitary Commissioner with the Government of India. Major T. Stodart has relinquished executive and medical charge of the Mogok District Jail.

Captain T. D. Murison, plague medical officer at Azamgarh, has been granted three months' privilege leave

of absence. Captain E. Bissett, at present employed on plague duty in the Meerut District, has been selected to officiate as Deputy Sanitary Commissioner of the First Circle, United Provinces of Agra and Oudh, in succession to Major S. A. Harris. Captain J. S. O'Neill has taken up duty in the Ghazipur District in connexion with plague prevention. Captain F. A. Barker, superintendent of jails and civil surgeon at Port Blair, has been granted two and a half months' privilege leave of absence. Captain C. G. Seymour, medical officer of the 2nd (King Edward's Own) Gurkha Rifles, has been appointed to officiate in Medical Charge of the Dehra Dun District during the absence on leave of Lieutenant-Colonel J. Fischer. Captain A. Cameron, at present officiating as civil surgeon at Rai Bareli, has been selected for special duty at Kasauli in the Central Research Institute. Captain A. W. Cook has been granted three months' privilege leave of absence. Captain R. A. Chambers has been selected for appointment as Superintendent of the Borstal Central Jail at Lahore.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

No. 18 Field Ambulance, Captain William Fraser Munro, 2nd East Lancashire Field Ambulance, Royal Army Medical Corps, Territorial Force, to be Captain (dated Oct. 2nd, 1912).

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd Northumbrian Field Ambulance, Royal Army Medical Corps: Lieutenant William A. Thompson to be Captain (dated July 1st, 1912). Lieutenant Mervyn A. Archdale to be Captain (dated Sept. 24th, 1912).

4th Southern General Hospital, Royal Army Medical Corps: Major William C. Wilson resigns his commission (dated Jan. 28th, 1912). William Cheyne Wilson to be Captain (dated Jan. 28th, 1912). Captain William Cheyne Wilson to be Major (dated Jan. 29th, 1912).

Attached to Units other than Medical Units.—Captain John F. Christie to be Major (dated August 2nd, 1912).

For Attachment to Units other than Medical Units.—Captain Herbert Hugh Blair Cunningham, from the Unattached List for the Territorial Force, to be Captain (dated August 3rd, 1912).

Correspondence.

"Audi alteram partem."

THE BELL-MAGENDIE CONTROVERSY.

To the Editor of THE LANCET.

SIR,—Last year you gave me an opportunity of laying before your readers the evidence which entitles us to regard Sir Charles Bell as the initiator of the movement leading up to our present knowledge of the central nervous system. It was unfortunate for me that at the time Professor Waller called my conclusions in question my time was occupied by the preparation of my lectures on a very different department of knowledge, and I had to content myself with a bare statement of fact, trusting that your readers would see the reasonableness of Sir Charles Bell's claims without any special pleading on my part. In the latter part of last year I had an opportunity of again studying the history of anatomy and physiology in the period covered by Bell's life, and I found that I had understated, not overstated, Bell's claims. Hence in my Struthers lecture I wrote:—

> He (Bell) found, soon after he left Edinburgh (1803) and started a venture school of anatomy in London, that men could give no reasonable explanation of the division of our central nervous system into cerebrum, cerebellum, and spinal cord, nor could they explain the remarkable and apparently meaningless manner in which the nerves arose and were distributed. He laid hold of a basal fact; he realised that if he could discover the uses of the various parts of the nervous system he could explain the complexity of their arrangement. His merit lies, not in making a reasonable guess as to the function of cerebrum, cerebellum, double nerve-roots, and double nerve-supply, but in having made this guess from his knowledge of human anatomy, he proceeded to test its truth on the bodies of other animals by dissection, and above all by experiment. His reputation as a discoverer does not rest on a quibble as to who discovered the exact function of the nerve-roots, but on the fact that he was the first man that realised that the anatomy of our brain and nerves could be explained.

Professor Waller[1] regards this statement "as a comparatively frank and clear admission of the fact that the discovery (of the function of the nerve roots) does not belong to Bell." Professor Waller evidently claims me as a convert. I leave your readers to draw their own conclusions from the statement given above. They will also see how far Professor Waller can be relied on to give a fair representation of the statements and opinions of those who are no longer alive to take part in their own defence. I can share in Professor Waller's admiration of Magendie without in any way detracting from the merits of Sir Charles Bell as the real discoverer of the separate function of nerve-roots. As regards the other points again raised by Professor Waller I leave their defence in the safe hands of Dr. Edridge-Green.

I am, Sir, yours faithfully,

Royal College of Surgeons of England, London, W.C., Sept. 30th, 1912. ARTHUR KEITH.

PRURITUS.

To the Editor of THE LANCET.

SIR,—The interesting and thoughtful letter of Dr. D. H. Murray in THE LANCET last week should arrest attention, as in it the writer proposes a new treatment of pruritus ani based on a new pathology of that distressing condition. It is possible that in the near future the treatment of pruritus, local and generalised, may be entirely by autogenous or stock vaccines, and that the causes of this condition, which at present are perplexing by their apparent variety, may eventually resolve themselves into the action of toxins acting either locally or generally through the blood stream, and created by bacterial infection. On these lines we may eventually arrive at *a specific treatment* based on the use of special vaccines suitable for each specific infection. But at present it is a matter of common knowledge that there is no specific in the internal treatment of this condition. Every case has to be carefully considered as to the cause or causes which underlie it, and the difficulty in treatment is greatly enhanced by the difficulty in determining the causal factors. In general practice we frequently meet with generalised pruritus occurring in elderly neurotic subjects in which the immediate cause apparently is a toxæmia, the result of imperfect digestion. The primary cause often is worry or some other underlying mental state. Such a case of pruritic trouble is often most harassing to the patient and to the medical attendant, who is compelled to ring the changes in drugs and local applications, usually with little success. There is also frequently a recurrence of the pruritus, the underlying mental state often reasserting its influence.

A method of treatment which I have found useful in cases of this description is the internal administration of *pure terebene* on sugar. The terebene doubtless acts as an intestinal disinfectant and stimulant. If taken when an attack is threatening, it will frequently cut short its development. I have also found terebene useful in cases of urticaria occurring in children and due to a food toxæmia. It may be given to them suspended in a mixture with carbonate of magnesia. There is, of course, nothing new in the principle of the treatment, but I do not know that terebene has been used before in this connexion.

I am, Sir, yours faithfully,

Sydenham, S.E., Oct. 1st, 1912. W. F. GRANT.

THE TEACHING OF THE DEAF.

To the Editor of THE LANCET.

SIR,—The report of Dr. E. T. Roberts to the school board of Glasgow, reviewed in THE LANCET of Sept. 28th, p. 906, shows that in providing for the educational welfare of her young deaf children Glasgow is keeping alive the traditional reputation of Scotland of being in the front line of progress. The experiment of appointing a special teacher to visit the homes of young deaf children before school age will be watched with great interest by all concerned with the education of this afflicted class of the community. It recognises the immense importance of the home as a factor in the training of children, and rightly assumes that mothers of children deprived of hearing are in need of guidance and help in the training of their mute offspring,

[1] THE LANCET, Sept. 28th, 1912, p. 901.

especially if these children are to take full advantage, when they enter school, of the lip-reading method.

It may be of interest to school boards and local education authorities to know that there exists in London a training college at which special teachers of deaf children are equipped for such work as the Glasgow school board is now initiating. The college is recognised by the Board of Education, though it has to depend for support and maintenance on the benevolence of the general public.

A movement is on foot to enlarge the scope of training afforded by the college and to provide new buildings, without which the development of the work of the college will be seriously impeded. Unfortunately funds are low and subscriptions are coming in very slowly. Any help which your readers may be able to render the college would directly benefit the deaf children of the country and be a national service.—I am, Sir, yours faithfully,

G. SIBLEY HAYCOCK,
Director of the Training College for Teachers of the Deaf on the Pure Oral System.

11, Fitzroy-square, London, W., Sept. 30th, 1912.

A NATURAL CORRECTION OF MYOPIA.

To the Editor of THE LANCET.

SIR,—The theory of Dr. I. B. Muirhead in relation to the natural correction of myopia[1] is interesting. A small particle of ingenuity, however, seems to be surrounded by a good deal of mystery, in which what he refers to as the suspensory ligament plays no little part. His discovery, that a myope of 2·5 to 5 dioptres cannot use his glasses for near work, is an everyday occurrence in the practice of ophthalmic surgeons. The difficulty is forestalled by advising the patient to hold his work as far from him as possible at first. In the course of a month or two he is able to wear his correction for all purposes.

The suggestion that contraction of the recti will shorten the antero-posterior measurement of the globe, and neutralise the myopia to the extent of 1 D., is in favour of the myope wearing his correction for close work, and is certainly not the explanation of the temporary difficulty. On the other hand, the theory that Dr. Muirhead brings forward may be used as further evidence against the views that the pressure of the extrinsic muscles is a factor in the production of myopia. For example: 1. Pressure effect of the superior oblique (Stilling). 2. Compression of the posterior ciliary arteries by the external rectus and inferior oblique (Arlt). 3. Traction on the posterior polar region of the sclera by the oblique muscles (Suter). 4. Compression of one of the venæ vorticosæ by the inferior obliques in convergence (Fuchs.)

The most likely causes of both simple and severe myopia are heredity and scleral ectasia. An investigation into the family histories of nearly 500 myopes points to heredity as the important factor in more than 80 per cent. Ectasia of the sclerotic is not uncommon in other parts of the globe, e.g., the equatorial ciliary and intercalary regions, and more often than not, is the direct cause of the secondary choroidal disease. I am, Sir, yours faithfully,

PHILIP A. HARRY, M.D., D.P.H.,
Honorary Ophthalmic Surgeon, Rochdale Infirmary.

Sept. 25th, 1912.

UNIFORMITY IN MEDICAL REPRINTS.

To the Editor of THE LANCET.

SIR,—It has often struck me as peculiar that in these days when the output of medical literature is so enormous, and when every man interested in his special branch of work accumulates innumerable reprints, not only of his own papers but also of the literary contributions his scientific friends are kind enough to send him—it has, I say, often struck me as out of keeping with that orderly system which should characterise our work that we make no effort to have a common international standard of size for all journals.

I need hardly point out how useful such an arrangement would be. One would be able to bind together in convenient volumes papers on the same subjects. Not only would private individuals be greatly convenienced by such a system, but libraries also would have much cause to be grateful. I have known cases where reprints have been bound together because they were of the same size, quite regardless of their subject-matter. At present all one can do is to catalogue reprints in separate drawers, but this is very inconvenient if one wishes to remove them for study.

It would be quite simple to make universal an international size such as that adopted by the Royal Society and by the Royal Society of Medicine—namely, 10 × 7 inches. Personally, I think 10¼ × 7¼ inches is a better size. The extra quarter of an inch allows for trimming during the binding. To make such a system as I have described a success it would, of course, have to be universal, and a start must be given by the leading journals, both special and general.

I am, Sir, yours faithfully,

Liverpool, Sept. 30th, 1912. W. BLAIR BELL.

DR. MYGIND AND THE BLOOD-CLOT DRESSING.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Sept. 21st Dr. Mygind, of Copenhagen, writes that I have misunderstood his method of hastening the healing after the complete mastoid operation. I am sorry that this is so, and I accept fully Dr. Mygind's correction, but I was under the impression that I had seen what I described.—I am, Sir, yours faithfully,

Harley-street, W., Sept. 28th, 1912. CHARLES A. BALLANCE.

THE WHITE SLAVE TRAFFIC BILL.

To the Editor of THE LANCET.

SIR,—The suppression of the subsection on "solicitation" of the above Bill, which is at present before Parliament, raises an issue concerning which medical teaching has always been vague and legislation consequently unsatisfactory—namely, the definition of an age-limit below which sex-relationships are injurious: of the age at which a "girl" becomes a "woman."

The various organs arrive at functional activity at different ages: the epiphyses join at 24 and so finish anabolic growth. The cases of neuralgias, &c., which one frequently meets in younger "*encientes*" that can only be relieved by large doses of calcium hypophosphite continued to the end of lactation indicate a revolt of Nature against any young thing attempting to reproduce before its own growth is completed. The disastrous effects of regarding the functioning of the organs themselves as a sign of general maturity is seen in India, where the victims of child marriage are generally internal cripples before they have done growing, and are prone to such diseases as osteomalacia later on.

That instinct cannot be taken as a guide in these matters is brought home to one in board schools. I have had to exclude several children (of both sexes) from the infant schools, where they ought to remain mixed until 7 years of age, because they were dangerous to other children. From a eugenic point of view Sir Francis Galton, Lombroso, and others established the age of the mother likely to produce the greatest intellectual ability as 33, and the best physique as 24. From a psychological point of view, the normal relationship is not a merely physical one, but a psycho-physical one, in which it is of the utmost importance for each individual to maintain the psycho-physical unity. In love, which is *vital*, this unity is maintained. In prostitution, which connotes suppression (of the psychical) and *automatonism*, this unity is dissociated. Hence prostitutes are notoriously neuropathic and given to dissociative conditions, as hysteria, whilst the men who frequent them are liable to weakening and to premature failure of memory, which is also a dissociation between the psychical and physical elements of personality. A chief characteristic of dissociation is increased suggestibility; hence the power (practically hypnotic) which *souteneurs* (who are now said to number 25,000 in London) exert over young girls, and the explanation of the ease with which they secure victims for the traffic. Psychical development is later than physical, so from a psycho-physical point of view "responsibility" cannot be said to be obtained before physical growth is complete. This is recognised for boys, who are not allowed to dispose of their property before 21. Should not a similar law exist for girls who (especially) before they are 21 should be prevented from bartering their unborn souls and half-made bodies on the public streets?

[1] THE LANCET, Sept. 14th, 1912.

Up to this age the penalty might be an indeterminate sentence in a Borstal institution. The present law of fining or sending a girl to Holloway for a fortnight is a pathetic farce—women learn to evade the police: girls, as is shown by the collection of cases in the *Vigilance Record* for August (1912), are, owing to our administration, placed at the mercy of the *souteneur* at an age when their protected sisters are still at their lessons in the schoolroom.

I am, Sir, yours faithfully,

Upper Brook-street, W., Sept. 25th, 1912. ETTIE SAYER.

A CASE OF COLOUR BLINDNESS.

To the Editor of THE LANCET.

SIR,—I was present, along with Professor Trouton, at the test of the case made by Dr. F. W. Edridge-Green, which is described in THE LANCET of June 22nd, 1912.

The examinee passed successfully the official wool test of the Board of Trade, but failed completely when tested with Dr. Edridge-Green's lantern. There is no doubt whatever that the examinee was a very dangerous case in spite of passing the wool test. This case alone would make it clear that a lantern test is necessary.

But there are lanterns and lanterns, and in my opinion it is exceedingly doubtful whether the new lantern suggested by the recent Departmental Committee has the requisites for effecting a correct discrimination between candidates. To mention one point only, it lacks any possibility of adjusting the luminosity so as to imitate the effects of atmospheric changes. This is the requisite which every lantern must have if it is to discriminate between the safe and the unsafe colour defective. It is possible to imitate service conditions in this respect with Dr. Edridge-Green's lantern. A lantern that lacks this provision is as useless as the fine weather tests which were made in the open by the Departmental Committee.

With regard to the proposed flicker method of discriminating the colour-blind, it should be noted that it has no theoretical basis; the recent report itself shows that in several cases its indications are erroneous. The best that can be said for it is that it is on its trial, and in any case it will be an extremely indirect and recondite method for ascertaining a very simple fact.

I am, Sir, yours faithfully,

University College, W.C., Sept. 27th, 1912. ALFRED W. PORTER.

A CORRECTION.

To the Editor of THE LANCET.

SIR,—In my paper entitled "The Technique of the More Extensive Abdominal Operations for Cancer of the Womb," which appeared in THE LANCET of Sept. 21st, p. 825, first column, last paragraph, I have stated, "My own series of 41 cases with two deaths," &c. This should read, "52 cases with three deaths." I should have made the correction had not absence from home prevented me from revising the proof.

I am, Sir, yours faithfully,

Wimpole-street, W., Sept. 30th, 1912. F. J. MCCANN.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—Sir Victor Horsley, in his speech at Appleby on Sept. 26th, refers to the difficulty between the Chancellor of the Exchequer and the medical profession as being "merely a question of remuneration for work done."

Undoubtedly the question of remuneration is a very important one, but it is by no means so all-engrossing to the medical profession as has been represented. The chief opposition of the profession to the Act is on account of its inadequacy as a measure for improving the public health, but there are many other important points in its medical clauses to which medical men object. The financial side of the question, although bound up with these, has been given a publicity which is totally out of proportion to its merits.

One of the most important of the demands of the profession is for adequate representation on the Local Health Committees. A perusal of the lists which have been published, giving the names of the members of these committees, is ample evidence that this demand has not been granted. If the list of the Manchester and Salford Committee, published in the *Daily Mail* of Sept. 25th, can be taken as a specimen of those all over the country, it is very evident that the demand for adequate representation is fully justified. It will be of interest to medical men, and possibly also to the public, to know that copies of these lists may be obtained from Messrs. Wyman, Fetter-lane, London, E.C., at the price of 1*d.* each, and the Executive Committee of the National Medical Union urges everyone to obtain a copy and to study the composition of these committees which are given so much power over the health and lives of their fellow men.

It is imperative that the public should be reminded of the fact that the medical profession is fighting, not only for its own rights, but also for the good of the national health, and that the question of remuneration is only one of many points of difference between the Chancellor of the Exchequer and itself.

I am, Sir, yours faithfully,

J. WEBSTER WATTS,

Manchester, Sept. 30th, 1912. Secretary, National Medical Union.

To the Editor of THE LANCET.

SIR,—I understand that a vigorous effort is being made to make a system of payment by fees appear unanimous on the part of the medical profession. This is far from the case, though in the present state of feeling the opposition to it may not be so articulate as it would otherwise prove. In a former issue you were good enough to print a letter from me showing the extravagance of this demand on the public revenue, but a consideration probably more likely to operate on the minds of those who are supporting it has so far been strangely forgotten. At first the burden on the ratepayers would be very heavy, and in the over-taxation with which the country is now afflicted this would prove intolerable; but in course of time, if the present signs prove to be correct, a great change will be effected in the amount of disease and in the cost of attendance thereupon. The whole trend of medical science is in the direction of prophylaxis by the elimination of the causes of disease, and one by one whole groups of ailments, and these, perhaps, the most common and fatal, are being added to the list of specific infections. By the use of sera it is fully expected that many of these diseases will be brought into subjection to the preventive power of medicine, and it is needless to point out that this will effect a gradual, or even rapid, diminution in their incidence and the income derivable from attendance upon them. If this happy consummation is attained, many medical men now in busy practice will find much of their occupation gone, and the profession will suffer heavy financial loss if the payment is on the basis of work done. On the capitation system, on the other hand, the payment would still continue whilst the work is diminished. Perhaps the advocates of this system have hardly viewed the question from this standpoint, and should pause before they go further in their demand. On the other hand, while the national funds would suffer temporarily, they may benefit ultimately by an improved health standard of the population,

I am, Sir, yours faithfully,

Sept. 26th, 1912. M.D.

THE POST OF MEDICAL REFEREE.

To the Editor of THE LANCET.

SIR,—At the end of an annotation on p. 897 of THE LANCET of Sept. 28th, under the heading "An Unusual Case under the Workmen's Compensation Act," you say: "It seems to us unfortunate that an official medical referee attached to a particular court should be allowed in any circumstances to give expert evidence in the court of which he is in some sense part of the judiciary, since it is to him that the judge ordinarily looks for guidance."

How far are the last clause and the inference drawn from it justified? According to the annual report on the Workmen's Compensation Act for 1909 (the latest I have to refer to) the number of claims for compensation settled in the county courts that year was in England 3087, in Scotland 450, in Ireland 568, whilst the number of references made to the medical referees was in England 225, in Scotland 62, in Ireland 10, and the number of times the medical referees sat with the judges as assessors was in England 240, in Scotland 79, in Ireland 57; so that, on an average, a medical referee was concerned with only one in every five or six cases.

The number of medical referees being 223 for the 53 County Court Circuits in England and Wales, 82 for Scotland, and 45 for Ireland, it is evident that on the average the judge looks for guidance to the medical referee about twice a year. The fees paid for such average annual services are five guineas. It is not, therefore, the direct remuneration which is of any consideration to a medical referee. His financial benefit is derived from the *clientèle* which his official position helps to bring him. To debar him from giving expert evidence in the county court within whose area he practises would be to penalise him so seriously that probably no suitable candidates for the post of medical referee would be forthcoming, except, perchance, from among surgeons who had retired from all forms of private practice.

The judge is not, however, shut up to one of the medical referees who usually act in his circuit. He is at liberty to refer the case to any other medical referee; and where, as in the case on which your annotation was founded, there is direct conflict of medical evidence it seems reasonable that the judge should consider it his duty to act on the permissive clauses (5 and 15) of the Second Schedule of the Act. Where, however, he chooses to dispense with the services of a medical referee he has only *to be satisfied* as to whether disability or death is due to an accident within the meaning of the Act.

Until the Act is altered so as to make it incumbent on the judge or arbitrator to call in a medical referee to sit with him as assessor in every contested case, there seems no proper ground for preventing medical referees from giving expert evidence in their private capacity.

I am, Sir, yours faithfully,

Oct. 1st, 1912. A MEDICAL REFEREE.

THE FIFTEENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Washington, Sept. 20th, 1912.

THERE is better promise for the success of the Fifteenth International Congress of Hygiene, which meets in Washington next week, than there was four years ago for the International Congress on Tuberculosis. The shortcomings on that occasion do not seem likely to recur. In any case the opening ceremony will be held in a building worthy of the occasion, and not amidst the sawdust, plaster, and scaffoldings of an unfinished structure. The opening and the final sitting will take place in the New Continental Hall, which is a handsome building with a fine classical portico. Nor has Mr. Taft, the present President of the United States, waited till the eleventh hour to manifest interest in the Congress, but will receive at a garden party the members on the very first day. They will be numerous. More than 2500 have already paid their entrance fees, which is the surest test of interest. Of course but a very small proportion of them come from Europe, but the German ship specially freighted for the purpose carried 245 members in one body. These comprised a few Austrians and Hungarians and two Portuguese, but the great majority were Germans. Coming by other ships and other routes there are expected at least another 100 European members, and though this contingent will be small, still it is larger than that which attended the Congress on Tuberculosis. Moreover, the scientific purposes of these congresses are not served by the presence of great crowds. There are already enrolled as many members as are needed, and far more papers than will be attended to are announced.

Curtailing the Proceedings.

I spoke to the General Secretary, Dr. John S. Fulton, on this subject, and he explained that the President and Committee of each Section were left to manage as they thought best so long as they got through the business with a minimum of friction. The papers announced in the agenda would be read if their authors were there to read them; if not, they would, in most cases, be taken as read, though exceptional leniency was to be shown to communications from distant countries. Thus if a European author was unable to attend a friend may be allowed to read the paper in his stead. The great difficulty of coming from such a distance, the expense and loss of time are well realised, and every allowance will be made. There are always too many papers contributed at these gatherings, and of these too many deal with generalities, mostly not new and often quite out of the range of dispute. This is not wanted, but communications containing real probing criticisms are wanted and are invariably very rare.

The Health Exhibition.

Though the members of the Congress are only just commencing to arrive, the exhibition held in connexion with the Congress is open and attracting quite a large crowd of interested visitors. The admittance is free—all are welcome. The exhibition is held in a temporary building constructed on Government ground with the understanding that it must be pulled down on Oct. 20th. Therefore only just what was necessary has been put together, and taking this into consideration the structure is well devised. All the wall space is available for exhibits, but the light comes in too high up for objects to be always well seen. There is light, however, from the roof as well as from the upper part of the walls. The classification of exhibits according to subjects is good, though a few exhibitors, by coming at the last moment, have created some confusion in the arrangement. A great many diagrams and models show what the different States are doing. The raised maps of the New York water-supply are among the most interesting exhibits here, for they date back to the early half of the seventeenth century, and thus show the marvellous growth of New York and its surrounding districts. With such a rapid increase of population there cannot but be gigantic difficulties to overcome, and that of the water-supply is not the least. The present exhibition supplies the means of studying this and many similar problems. Thus, we have also the question of rainfall, and a map indicates that the greatest number of days when it rained in the course of a year amounted to 164 at Olympia, Oregon, and the least was 62 days at Prescott, Arizona. San Francisco had nearly as few, for it rained on only 69 days. At Washington there were 108, and at Albany, New York, 146 days of rain.

The American Museum of Natural History exhibits some beautiful models of filtration of water and of sewage. The sprinkling nozzle system is much in favour. The sewage is here sent spurting up through a nozzle that scatters it in all directions over the filtering beds, and thus it gets cheaply oxidised.

American "Sex Hygiene."

The American Federation for Sex Hygiene has the courage of its pronounced opinions, and deals without flinching with sexual vice. It opens proceedings by informing us that Americans spend $3,000,000,000 annually on immorality and social diseases, $2,000,000,000 on intoxicating liquors, and $1,200,000,000 on tobacco. Jewellery and plate come next, but for only $800,000,000. Automobiles represent $500,000,000. Then we come to "church work at home," $250,000,000, which is thus just ahead of confectionery, which accounts for $200,000,000. "Soft drinks"—i.e., temperance drinks—cost $120,000,000, tea and coffee $100,000,000. First below $100,000,000 is the much-abused millinery bill, put down at $90,000,000, and this is but little more than the $80,000,000 spent over patent medicines. Last on the list are chewing gum, which is estimated at $13,000,000, and is preferred to foreign missions, on which only $12,000,000 are devoted. It is not stated whether the Federation for Sex Hygiene considers all such expenditure as useless and mischievous, but it is evident that far too much is spent on unhealthy indulgence. This is well proved by the statistics on venereal disease that follow. In all this, however, there is more denunciation than practical suggestion for remedy. We can easily say a thing is bad and ought to be suppressed, and yet how often has the attempted suppression merely given rise to worse evils. However, on this occasion there seems to be absolutely no desire or attempt to conceal the facts, and that is going a long way towards finding a remedy.

Popular Propaganda.

Finally, the Health Exhibition, which is an annex of the Congress, has already organised half-hour lectures for every

afternoon, many of them accompanied by lantern illustrations. These are all intended to popularise sanitary science, and are doing much good. They not only attract attentive audiences, but are largely noticed in the local press. For instance, Dr. Woods Hutchinson, of New York, has been speaking on Publicity in Public Health Work, saying that the doctor's "veil of mystery" was now out of date; the public, on the contrary, must be taught how to second the sanitary reformer's efforts, especially in respect to preventive medicine. Sewage disposal, water filtration, food adulteration, cold storage, and many other subjects are to be treated. In regard to the latter, Professor William T. Sidgewick, of the Massachusetts Institute of Technology, has been showing the great services rendered by cold storage. He suggested that if a more severe watch were kept on what is put in cold storage we should hear fewer complaints about what comes out. In any case, eggs which now cost 30 cents the dozen at Boston at Christmas would cost three and four times as much but for cold storage. The Congress has been utilised to organise, on practical and popular lines, a widespread sanitary mission, and these popular lectures will considerably help towards this object.

AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

(FROM A CORRESPONDENT.)

THE twenty-second annual meeting of this association was held at Richmond, Va., on Sept. 3rd, 4th, and 5th, the President, Dr. WILLIAM D. MCFEE, of Haverhill, Mass., being in the chair.

In a report of the Committee on Direct Continuous Current, including electrolysis, electro-chemical surgery, ionisation, and all apparatus connected therewith, Dr. G. BOTTOM MASSEY, of Philadelphia, reiterated the necessity for accurate meters and controllers with resistance and smoothness of current increase sufficient to permit the application, without sudden increase or decrease, of the current strengths that would be employed.

Dr. FREDERIC DE KRAFT, of New York, in a report of the Committee on High Frequency Currents, described a multiple spark gap of the simplest possible type, with nine very small gaps, which greatly increased the rate of oscillation to be obtained from the D'Arsonval spiral.

Dr. EDWARD C. TITUS, of New York, read a report of the Committee on Phototherapy, which contained his observations of last year [1] upon the physico-chemical effects of the ultra-violet and blue violet rays upon both normal and abnormal conditions of the skin. He also referred to the beneficial effects of strong clear sunlight in the treatment of bone tuberculosis and the anæsthetic action of true blue light. The report of the Committee of Radiography, Radiotherapy, and Apparatus was read by Dr. G. E. PFAHLER, of Philadelphia; and that of the Committee on X Ray and High Frequency Tubes and Apparatus by Dr. FREDERICK M. LAW, of New York.

Dr. WILLIAM BENHAM SNOW, of New York, in a paper on Epidemic Poliomyelitis, recommended for removing infiltration the static wave current applied with marked energy for its mechanical effects upon the tissues. For increasing the local resistance and possibly removing the virus, radiant light and heat, the direct d'Arsonval current, and static wave current, he said, should be employed in the earliest stages and until recovery is complete. In the subsequent stages the static wave current to the spine, radiant light and heat and mechanical vibration to increase the metabolism in the paralysed parts, together with voluntary exercise and exercise induced by electric stimulation, as with the static induced current, were indicated.

Dr. FREDERIC DE KRAFT, of New York, recommended the d'Arsonval current in arterial spasm resulting from autotoxæmia, local irritation, excessive use of tea or tobacco, the emotions, and over-eating.

Dr. ARTHUR W. YALE, of Philadelphia, described a new mode of administering the static current, to which the term static condensed current had been applied; also his method of administering ozone.

[1] THE LANCET, Oct. 21st, 1911, p. 1169.

Dr. J. C. WALTON, of Richmond, Va., made a strong plea for precision and accuracy in the use of hydrotherapeutic procedures, and laid great stress on the external applications of water, on the temperature, the pressure, and the duration of application.

Dr. G. BETTON MASSEY, of Philadelphia, in the treatment of tuberculous glands, claimed that by inserting a small zinc-mercury electrode into the diseased area one might by zinc-mercury ionisation devitalise the germ colony *in situ*, and at the same time seal the surrounding wall of tissue against further invasion of the tubercle bacilli. No relapses had been noted in any case treated by this method.

Dr. F. HOWARD HUMPHRIS, of London, England, in a paper on Lessons from Failures, gave as the most common causes of failure the armamentarium, inadequate knowledge, unsuitable cases, lack of perseverance, inattention to detail, over-confidence or lack of confidence, fatigue, idiosyncrasy, and electrophobia.

Dr. WILLIAM SEAMAN BAINBRIDGE, of New York, gave a preliminary report of the tests now being carried on at the New York Skin and Cancer Hospital by the research department in the treatment of malignant new growths by fulguration and thermo-radio-therapy. He exhibited two patients and a large number of lantern slides.

Other papers read were: Suggestions for Reform in the Exploitation of Apparatus, by Dr. A. B. HIRSH, of Philadelphia; on the Examining and Recording of Chronic Cases, by Dr. J. W. TORBETT, of Marlin, Texas; the Present Status of High-frequency Desiccation, by Dr. WILLIAM L. CLARK, of Philadelphia; the Treatment of Splenic Affections by Diathermy and the X Ray, by Dr. FREDERICK H. MORSE, of Boston; the Double Spark Gap Static Current, by Dr. FREDERICK H. BISHOP, of Washington, D.C.; A *Résumé* of 400 Cases of Tuberculosis Treated by the X Ray during 15 Years, 85 per cent. of which were Still Alive, by Dr. J. D. GIBSON, of Denver, Colo.; the High-frequency Current in the Treatment of Exophthalmic Goitre and Perverted Thyroid Secretion, by Dr. WILLIAM G. LEWI, of Albany, N.Y.; Electricity in Rheumatism, by Dr. ROSA D. WISS, of Meridian, Miss.; the Measurement of Roentgen Ray Power in Tousey Power producing a Photographic Effect on Kodak Film equal to One Candle Power of Incandescent Light, by Dr. SINCLAIR TOUSEY, of New York; the Treatment of Chronic Deafness by High Potential Currents, by Dr. D. H. YATES, of Madison, Fla.; and the Static Charge, by Dr. C. F. MILLS, of New York.

The following officers were elected for the ensuing year:—President: Dr. F. Howard Humphris (London, England). Vice-Presidents: Dr. G. E. Pfahler (Philadelphia) and Dr. Edward C. Titus (New York). Secretary: Dr. J. Willard Travell (New York). Treasurer: Dr. Emil Heuel (New York). Registrar: Dr. Frederick M. Law (New York). Trustees: Dr. William D. McFee (Haverhill, Mass.) and Dr. Frederick H. Morse (Boston).

The next meeting will be held in New York City.

CONTRACT PRACTICE IN NEW YORK CITY.

(BY A SPECIAL CORRESPONDENT.)

CONTRACT practice, more frequently termed in the United States "lodge practice," is widespread throughout the country. In all the large industrial centres contract practice in one form or another exists. It is in New York city itself, however, that organisations engaging the services of medical men at a stipulated amount yearly are most numerous and powerful, and where consequently the working of the system may be observed in its most accentuated and worst aspects.

Comparison of Eastern Parts of New York and London.

Recently I have made it my business to visit some medical practitioners in the east side, or tenement district, of New York in order to procure first-hand information on the subject. I have myself had experience of medical practice among the working classes in England. During my several visits to the tenement quarter of New York I have been struck by the similarity of the conditions prevailing in the eastern sections of the two largest cities of the world. The East-end of London is marked perhaps by greater poverty, more

squalid, drab, and depressing conditions, but, on the other hand, the tenement district of New York is more overcrowded. I question whether any area of a like size in the civilised world teems with so heterogeneous a mass of people as this. Jews, perhaps, predominate, although almost every race is represented, and its inhabitants are of a more cosmopolitan nature by far than those of the London East-end. Nevertheless, the east-end streets of each city present, at least superficially, a somewhat similar spectacle. As I walked through East Broadway the other evening I was reminded irresistibly of parts of Bethnal Green-road, while Rivington-street recalled to mind pictures of London streets, with the roadway partly obstructed by hucksters' carts, whose owners cry their wares in raucous tones, while the pavements are filled to overflowing by slowly moving throngs.

Wide Extent of Contract Practice.

The first medical man on whom I called had at one time conducted a large lodge practice. He is now engaged only in private practice. The second had likewise retired from lodge practice, and the third was still a "lodge doctor." From these three I obtained an illuminating exposition of contract practice as it really is in the east side of New York. Until then I must confess that my views on the matter had been hazy, for I had thought that it was in England that contract practice flourished most luxuriantly, or, rather, that it was in England medical practice was most degraded by the system. I am now brought to conclude that conditions in this respect in the tenement district of New York are quite as bad as, perhaps even worse than, those in any part of Great Britain. Indeed, this portion of New York is honeycombed by lodges, benefit societies, and like organisations.

The following statements will show how deeply the system is implanted. 75 per cent. of the east side population, in round numbers 500,000, are insured for medical attendance in lodges and societies. Three-fourths of the medical men residing there accept contract practice. I was informed that there are about 9000 societies and organisations in the tenement district served by medical men.

The Evils of Lodge Practice.

The regular rate of pay of lodge practitioners is $1 yearly for an adult and $3 for a married man and family. But the inadequate rate of remuneration is by no means the worst feature of New York contract practice. When it was in its infancy societies would send delegates to a medical man, requesting him to accept the position of "lodge doctor" for a fair and reasonable consideration. All this is now completely changed, and has been so for some time; the societies have now obtained the upper hand, and instead of the societies asking for his services, the medical man goes to the societies hat in hand begging for the work, or endeavours to curry favour with the leaders of the societies by more reprehensible methods. In short, the ordinary "lodge doctor" is no longer independent or self-respecting; he is to all intents and purposes the servant of the societies.

This unfortunate situation is not wholly the fault of the medical man, but has been brought about, to a large extent, by the superfluous output of medical graduates and the consequent keen competition among them. A young man without money, who has just been given his degree, is forced to take lodge practice, at any rate for a time, so as to live, and the societies have taken advantage of his and of his fellows' necessities to grind him and them down to starvation wages. Indeed, the competition for election as "lodge doctor" has become so strenuous that candidates are stated to resort to bribery, direct and indirect, to obtain the position, though of this I have no personal knowledge and I can hardly believe it. As a rule, when a medical man has gained a *clientèle* through lodge practice, he divorces himself from it as soon as possible, and continues in the locality as a private practitioner, and this to some extent is held to justify the clubs in offering starvation terms. They regard what the young man is going to get out of "lodge practice" later as a set off against his poor pay. But there are many who never can break free from contract practice, and therefore are the servants of the societies to the end of their days. As an instance of how lightly "lodge doctors" are esteemed by the inhabitants of the New York east side, I was told by one of my informants that when an individual in a lodge, or one of his family, is thought to be seriously ill, the lodge practitioner is asked if he had not better call in a "real doctor." There are medical men who engage in contract practice in New York who make good incomes, but they have so many patients that they are unable to attend to any of them properly. They must scamp their work. The great majority have to struggle hard to make both ends meet.

The root evil of the system is, of course, the method in vogue of electing "lodge doctors." The competition for the positions is so keen that the medical candidates place themselves wholly under the thumb of the lodge leaders, thereby losing self-respect and the respect of their patients. Medical men themselves in the United States are well aware of this deplorable state of affairs, and, generally speaking, are opposed to contract practice as now conducted. The conditions governing contract practice in New York supply a warning to the medical practitioners of Great Britain not to accept contract practice on a large scale unless adequate pay is assured, and especially not to allow themselves to be dominated by the societies.

NEWCASTLE-ON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Fire at the College of Medicine.

CONSIDERABLE damage was done by fire in the College of Medicine on the evening of Sept. 24th. The outbreak was discovered late in the evening, and appears to have originated in Professor Robert Howden's private room. The flames were speedily got under, but not before the room was practically burnt out, and the room underneath had suffered damage also by water and breakage. It is believed that many valuable records have been destroyed, together with instruments. It is a matter for congratulation that the fire was discovered and extinguished so promptly, otherwise there can be little doubt that the building would have suffered severely.

Medical Men and the Insurance Act.

The medical men of the district have during the last few days been putting into effect the provisional resignations of their Friendly Society appointments, through the various divisional secretaries of the British Medical Association, the decisions in Newcastle, Gateshead, and Sunderland being practically unanimous. There has been some discussion as regards the position of some medical men in Newcastle who are members of the city council and have been nominated as such by the council to serve on the Local Insurance Committee. These gentlemen, three in number, were asked by the local division of the British Medical Association to resign their position on this committee, and as a result there has been some little local interest in the matter. One medical man did not definitely refuse the Association's request forthwith, but the other two did, one of these explaining his position in a press interview, with the outcome of a leading article in a local paper relating to the prior duties of medical men as citizens before all other duties. No great excitement has been caused, however, and matters are very quiet in relation to the Act and its provisions for medical men.

Friendly Societies and the Act.

During the past week the Annual National Conference of Friendly Societies has been held in Newcastle-on-Tyne, under the presidency of Mr. Elater Davis, the Most Worthy Scribe of the Order of Sons of Temperance. After a reception by the Lord Mayor of Newcastle, Sir W. H. Stephenson, the chairman gave the annual address. In the course of his remarks he complained that no light could be obtained from the Commissioners as to the question of doctors. It was quite evident that the overtures made by the Friendly Societies to the Commissioners that the 6*s.* under the financial arrangement should be paid over to the societies, should the doctors fail to come to an agreement, had not been favourably considered, if considered at all. The question he had himself put to Sir Robert Morant was: "Can the chairman make any statement as to the financial arrangements to be made for medical benefits, having regard to the understanding that the Government may make extra provision?" The reply, in substance, was that

the approved societies would not have the arrangements with the doctors; that the Insurance Committees would have to see to that duty. He told the conference that at the meeting with the Commissioners conditions of service of the doctors were discussed, and also alternative methods of remuneration, none of which included payments by societies. The systems under discussion were: capitation system, capitation system plus payment for special services, payment by attendance, fees and capitation system plus payment for services, fees and payment for special services plus capitation system—all of which were to be included in general regulations, with options to the Local Insurance Committee to adopt any or a combination of such methods. Thus nine months after the passing of the Act the warfare as to price which had been raging between the doctors and the Commissioners was to be transferred to every Local Insurance Committee throughout the country for settlement in three months without any lead. This, in his opinion, imposed a responsible duty on every member of the committees representing insured persons, and whether it be Friendly Society or industrial company, requests should be made to the representatives to be in their places when those decisions were arrived at, and strenuously oppose any additional cost for medical benefits coming out of the funds allowed under the Act. He considered that any increase in the remuneration of charges due to the doctors should be borne by the Treasury as a matter of equity. Care must also be exercised in regard to the £2 limit demanded by the doctors. What the House of Commons had refused to put into the Act was now to be the bone of contention in every Insurance Committee, and it should be the duty of every approved member, at whatever cost, to preserve the right of every member compulsorily insured having secured to them the medical benefits under the Act without the additional conditions imposed by the medical profession. It should be noted that the Commissioners had reserved to themselves the right that "where no agreement had been made between a committee of a society having members resident in the counties, in respect of the cost of medical benefits and of the administration thereof, the Commissioners should determine the amount to be paid by the society in such a manner as they think fit." Thus the approved societies were hedged about with conditions which made it almost impossible to move, whilst the doctors' interests had been safeguarded on every side. It now remained for them to see that fair and adequate terms were arranged for those they represented through the only channel left to them—namely, the Insurance Committees. He touched on other matters not related to the medical profession, and remarked, in the course of an interesting address, it would appear that the policy of support was taken as a sign of weakness, whilst a policy of antagonism was a sign of strength, and they were not yet at the end.

Oct. 1st.

BRISTOL AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Sanatorium and Medical Benefit in Bristol.

To many it may appear that the work of organising a machine for the administration of sanatorium benefit should not be difficult after the stream of interim reports, regulations, white papers, and so on, with which local authorities have been deluged from Whitehall. That it is not so easy as it looks, however, is proved by the experience of Bristol. A little while ago it was explained in these columns that Bristol possessed certain parts of the machine, and that efforts were being made to bring these into coördination with the whole organisation to be set up. First, there is the Winsley Sanatorium, in which Bristol holds a large proportion of the total number of beds by virtue of an annual subscription. The scheme of enlargement, which had been determined upon before the Insurance Act changed the outlook of the institution, has now been modified, and after the adoption and subsequent rejection of a temporary plan consisting of the erection of chalets, it has been decided to proceed as rapidly as possible with the building of permanent premises, to include a new kitchen block and a block of 20 beds for male patients. Additional space for women patients is to be provided by converting a shelter into a temporary ward. The administration of the sanatorium will need remodelling, and this may be to some extent facilitated by the fact that Dr. L. Crossley, the medical officer, has resigned, so that his successor will be appointed under the new conditions. At their recent meeting the committee received Dr. Crossley's resignation with much regret. He has been a very capable administrator, and has made himself popular with all concerned. Another tuberculosis institution, the Redcliff Dispensary, in the centre of the city, is continuing its work on a voluntary basis for the time being, on the understanding that as soon as the local profession has come to a working agreement with the Health Committee and the Insurance Committee the dispensary will become a part of the municipal organisation. Happily funds are forthcoming for this period of voluntary support. It is also highly satisfactory to be able to announce that negotiations which have been proceeding for the past month or more between the Health Committee, the Insurance Committee, and the Provisional Medical Committee of the district, have resulted in agreement as to a temporary plan for administering sanatorium benefit, which only awaits the approval of the Insurance Commissioners. The administration of medical benefit, on the other hand, is absolutely blocked in the same way as it is throughout the country. There are in the Bristol area 142 medical men holding club appointments; of these, 136 have already given notice of resignation in January. In the city itself only one club practitioner has so far failed to take this step. The staffs of the voluntary hospitals have also given notice to their committees that they will be unable to treat insured persons except in cases of urgent necessity. Further, the guarantees of subscription to the British Medical Association Fund have been very many, and on a generous scale, such as will, it is to be hoped, obtain throughout the country.

The Honorary Degrees of the University of Bristol.

Much dissatisfaction is being expressed throughout the city at the long list of honorary degrees to be conferred at the forthcoming installation of Lord Haldane as Chancellor. What is causing particular annoyance is that the council has taken for itself a privilege which it does not legally possess in voting degrees. Its offence is all the worse because seven of the degrees thus voted are actually granted to members of the council that voted them. It is believed that it is possible for convocation to oppose this proceeding, but whether this step will be taken or not is not known at present.

The St. Austell Urban Council and the Local Government Board.

At the last meeting of the St. Austell (Cornwall) urban district council a letter was read from the Local Government Board saying that they could not sanction the appointment of Dr. A. Shaw as medical officer of health, and if the district council desired to secure repayment from the county fund for the salary of their medical officer of health they must appoint Dr. A. T. Nankivell to the post. The Local Government Board added that there was no reflection on Dr. Shaw, but Dr. Nankivell gave his whole time to public work, while Dr. Shaw was engaged in private work. There was a considerable amount of discussion, some members considering the action of the Board "impudent" and "impertinent." Eventually Dr. Shaw decided to take half of the usual salary, and thus enable the urban council to do without any financial help from the county fund, and it was determined to inform the Local Government Board that the council had decided not to accede to their wishes.

Isolation Hospitals in Devonshire.

At the meeting of the Devon county council held on Sept. 26th it was decided that preliminary steps should be taken by holding the necessary inquiries for the establishment of isolation hospital accommodation for the urban and rural districts of Bideford, Holsworthy, and Torrington.

The Newton Abbot (Devon) Hospital.

An X ray apparatus costing about £200 was installed at Newton Abbot Hospital on Sept. 27th. A demonstration was given in the operating theatre, and on the proposition of Captain Jakes Hughes, R.N., a hearty vote of thanks was accorded with acclamation to Dr. Edgar Haydon, who had collected the money for the purchase of the apparatus.

Oct. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Sanitary Congress at Montrose.

THE Congress of the Incorporated Sanitary Association of Scotland was held last week in Montrose. A discussion took place on the provisions of sanatorium benefit under the National Insurance Act, and papers were read on Methods of Disinfection and other kindred subjects. The discussion on the administration of the housing provisions of the Housing, Town Planning, &c., Act (1909) was specially interesting. During this discussion it was brought out that it had been established in the law courts that, in dealing with closing orders, (1) it was not necessary, before issuing a closing order, that proceedings should be taken by the local authority under Section 15 of the Act; (2) that the owner of a property proposed to be closed was not entitled to be heard by the local authority before the closing order was issued; (3) that the phrase "in a state so dangerous or injurious to health as to be unfit for human habitation" was not an alternative but one condition; and (4) that the term "dwelling house" was not necessarily restricted to a single tenancy, but might include a whole tenement, which, therefore, might be covered by one closing order, provided, of course, that each and every house in the tenement had been represented as being uninhabitable, and that in the closing order the means of identifying the houses closed were sufficient.

Glasgow Maternity Hospital.

As a result of the deputation sent by the managers of the Glasgow Maternity Hospital to lay before the corporation the unsatisfactory state of the finances of the hospital, the general finance committee of the corporation have recommended that a grant of £2500 be given from the "Common Good" towards the general purposes of the hospital.

Nurses' Home at Dumfries Infirmary.

The Countess of Dalkeith last week performed the ceremony of opening the Nurses' Home at Dumfries and Galloway Royal Infirmary. The home cost £2500, and it is only part of a large scheme of reconstruction which was entered upon some time ago, and which it is expected will cost £12,000. Of this sum the directors have already managed to raise £6271.

Smoke Abatement Crusade in Glasgow.

The corporation of Glasgow is determined to do something, if possible, to improve the atmospheric conditions of the city. For this purpose a large and interesting Smoke Abatement Exhibition is being held. Two years ago a similar exhibition was held, and at that time the part which the domestic chimney plays in the pollution of the atmosphere was dealt with. In this exhibition, while the domestic side still forms an important feature, particular attention has been given to appliances for use in factories and public works, and a special effort has been made to interest the manufacturer in the show so as to obtain his coöperation. With this object in view, there are numerous exhibits of smokeless fuels, gas-heated furnaces, patent boilers, and patent appliances for boilers designed to abolish the emission of smoke. A fine installation of high-pressure gas plant has been arranged to illustrate the latest and most effective way in which to light shops and warehouses with gas, and special windows have also been fitted up with gas and electricity to demonstrate the most up-to-date methods of lighting by these illuminants.

Oct. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The National Insurance Act: The Medical Profession in Dublin.

THE meeting of the medical profession of Dublin, adjourned from Sept. 24th to Sept. 27th, on reassembling discussed a draft letter to be used by medical officers to friendly societies in notifying their societies of the conditions under which they would be willing to continue in office after Dec. 31st, 1912. The letter was approved, and a resolution unanimously passed calling on all medical officers of friendly societies in Dublin to forward signed copies of the letter to the secretaries of their societies before Oct. 1st. The conditions stated in the letter are similar to those demanded by the profession elsewhere; and resolutions were carried stigmatising the conduct of medical men applying for the vacancies so caused as unworthy, and calling on the staffs of the Dublin hospitals not to treat at the hospitals any club patients save children and urgent cases.

The resignations have been announced of their important club appointments by certain medical men who had only recently entered upon their engagements, and this victory for local medical organisation has produced a statement from the secretary of the Ancient Order of Hibernians suggesting that the benefit societies will either create a whole-time service, or pay fixed fees for attendances, or dispense with medical aid.

The strained situation has been aggravated by the publication in the *Irish Times* of an interview with the Commissioners, in which the Commissioners criticise bitterly the demands of the medical profession in respect of sanatorium benefit, and declare that the terms of the Commissioners would have been accepted by many members of the medical profession if they had not been terrorised.

With the intention to show the unreasonable attitude of the Dublin Local Medical Committee the Commissioners contrast the sum required to deal with *the insured and their dependents* if the Committee's suggestions were adopted with that required to deal with the *insured alone* if the fees which the Commissioners have sanctioned were accepted. The figures given in this interview constituted the first information which the County Insurance Committees obtained of the fees which the Commissioners are willing to sanction.

The interview is bound to create intense irritation. The attitude of the medical profession toward the sanatorium benefit has up to the present in Ireland been most sympathetic, but it will be so no longer. The statement that it will be attempted to do without medical certificates, leaving laymen to give "other sufficient evidence of incapacity," shows how serious the contest now is in Ireland between the medical profession and those responsible for the working of the Act.

Unanimity in Belfast.

The whole of the medical profession in Belfast and the towns of Ulster who hold contract appointments have given notice to terminate their engagements.

Presentation to Dr. J. T. Creery.

On Sept. 25th Dr. J. T. Creery, of Coleraine, who has been in practice in that town for the past 30 years, was made the recipient of a handsome gold watch and substantial cheque, the gifts of grateful patients and numerous friends. A short time ago Dr. Creery had a motor accident, which, fortunately, was not attended with serious results, and his recovery was considered an opportune time for indicating the place which he occupies in the affections of friends and patients.

Oct. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

"Travelling Nurses" for the Ivory Coast.

THE budget of the Ivory Coast, one of the latest acquired colonies of France, asks for the sum of 450,000 francs for its sanitary service during 1913. The organisation of the Medical Assistance for Natives has made rapid progress, especially in consequence of the increase in the number of nurses assigned, at the request of the medical staff, for the care of natives. The number of consultations, of which the mean in recent years was 100,000, in 1911 reached 261,000, exclusive of vaccinations at the official stations and the villages visited. This progress will be still further augmented by the regularisation of the sanitary visitations. The governor of Angoulvant has established what are locally called "travelling attendants" (*infirmiers ambulants*). The administrators and post-commandants in their official progresses through their districts will always be accompanied by a native nurse, who will vaccinate the natives and afford them the customary medical aid. This innovation is both felicitous and opportune, for the negro of the Ivory Coast is more and more abandoning his distrust of European medicine, and is realising not only that European methods

succeed in many cases in which the fetich men fail, but also that the epidemics of small-pox which, in spite of the protective arts of the fetiches, have hitherto devastated entire regions, now spare the tribes visited by the white men.

Medical and Surgical Treatment in Renal Tuberculosis.

Dr. Le Fur has brought before the Société des Chirurgiens de Paris personal statistics of 22 cases of nephrectomy for renal tuberculosis without a death, either operative or post-operative. It is true that a child operated on during complete anuria succumbed, but all the other patients on whom nephrectomy was performed under normal conditions have survived, the greater part being cured for periods varying from six months to 12 years. As against these excellent results of surgery, M. Le Fur brought forward statistics, also personal, of 70 cases of renal tuberculosis treated medically with two deaths—a mortality of 3 per cent. He therefore concludes that the treatment of renal tuberculosis may be either medical or surgical. The indications for surgical intervention are the persistence of local troubles (cystitis, renal pains) and the aggravation of the general condition or a very important diminution, amounting to at least half, in the functioning of the diseased kidney. Medical treatment should always be tried at the beginning of the trouble, and especially in the early pretuberculous stage of the kidney, so often ignored by the practitioner, which is characterised by slight albuminuria and cylindruria. Medical treatment should be systematically prosecuted also in a case of nephrectomy, for it must not be forgotten that renal tuberculosis is not a primary tuberculosis in the strict sense of the word. Every subject of renal tuberculosis, even when operated on, must be considered a potential tuberculous person, and as such demanding medical treatment. Renal tuberculosis is much more common than is generally supposed, and a correct diagnosis is definitely made only a long time after its commencement. Undoubtedly a greater number of cases could be cured by simple medical means if the condition were recognised and treated in good time. Every effort, therefore, should be made to discover it as soon as possible and to treat it forthwith.

Total Resection of the Stomach.

Dr. Roullies, a surgeon of Agen, has successfully attempted a very serious operation. The patient, a husbandman, 27 years of age, had total resection of the stomach performed, a portion of intestine being substituted therefor. Cure was complete in 25 days, and the patient left the hospital at once.

The Campaign against Cancer.

The campaign against cancer, equally with that against tuberculosis, occupies the attention of the medical profession and those engaged in research. On all sides individual medical men, as well as medical groups and associations, are seeking a remedy by all means in their power. Recently the Société Médicale de Reims addressed an appeal to pharmacists and midwives to take their share in this struggle. After pointing out the increasing frequency of this scourge, the circular adds that topical applications, ointments and pastes, cannot check the progress of the disease, and should be definitively proscribed as illusory and dangerous. It points out that operation, to be efficacious, must be undertaken early, for the chances of success diminish progressively with the duration of the malady. In the advanced stage cancer becomes inoperable because of its extent. The cases that fall too late into the medical man's hands are very numerous. Pharmacists, midwives, and attendants, when called on for advice, owe it to their consciences to enlighten the patient as to the fatal results of this disease. Midwives will often be the ones first consulted for a cancer of the breast or of the uterus. The Medical Society, therefore, earnestly calls on them to refer to a medical man every woman affected with a tumour of the breast, and to recommend at once a medical examination in the case of every woman suffering from loss of blood or from a rose-coloured discharge apart from the menstrual periods or some months after the menopause. The pains, the emaciation, the fœtid discharges are later signs, which must not be waited for. Pharmacists are urged to refuse to treat wounds and ulcerations which, instead of cicatrising, tend to increase and become bloody.

Oct. 1st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Judicial Decision relative to Unqualified Practice.

AN important decision with regard to unqualified practice was recently given by the High Court of Leipsic, the highest judicial tribunal in this country. The defendant had treated non-surgically a case of cellulitis of the thigh, for which a qualified medical man had previously advised an operation. The result was that after some time disarticulation of the femur became necessary. The local court to which the case was first taken found the defendant guilty of causing bodily injury by neglect, and this decision was on appeal confirmed by the High Court. The judgment declared that although it might be doubtful whether the result would have been better if an early operation had been performed, the charge of neglect was based on the fact that the defendant, although knowing that he had not a sufficient medical training, had undertaken to attend a case which a qualified medical man had characterised as very severe and needing immediate operation. The court further declared its acceptance of the principle that whoever undertook to exercise a profession was under an obligation to acquire the necessary knowledge. This decision is important, because the courts in trying unqualified persons charged with negligent or unskilful treatment of patients have often been inclined to regard it as an extenuating circumstance that an unqualified person could not certainly know that his treatment might eventually be injurious.

Misuse of the term "Specialist."

The Appeal Court of Honour of the Kingdom of Saxony has decided that a medical man shall not be allowed to call himself a "specialist for internal and external tuberculosis." The court, in giving judgment, declared that in accordance with the opinion of leading medical men, such as Professor Czerny, Professor His, Professor Quincke, and others, a division of medical practice into too many branches ought to be avoided. A specialist might devote himself to the diseases of certain regions or certain organs of the body, such as the nervous system, the eye or the ear, but could not claim as his specialty a disease which might invade any region or organs of the body. The defendant having acted in good faith was not fined, but was only asked to remove the objectionable words from his door-plate, visiting cards, &c. The court further decided that the term "specialist for massage of the nerves" was not in accordance with medical ethics, because massage of nerves was too limited a branch of treatment to be regarded as a specialty, and also because it was doubtful whether the method was a scientific procedure. This practitioner was not fined, but, as in the preceding case, he was ordered to abstain from using the above words.

Sunday Rest for the Medical Profession.

Medical men, especially in the larger cities, have for a long time complained that they could hardly ever go into the country without being liable to lose patients who in the event of the absence of their ordinary advisers might possibly call in another practitioner. In order to meet this difficulty in the case of Berlin a society has been formed with the object of carrying out a scheme by which the majority of its members will be at leisure on Sunday. The principle adopted is that for this purpose Berlin is divided into a number of districts, in each of which only one medical man has to be on duty on Sundays, and has to act as locum-tenent for all the other members of the society practising in the district. He is obliged to be ready for a call from 10 A.M. to midnight, so that the others may be at full liberty to go into the country or spend the day in any way they like. It is an express condition that the practitioner on Sunday duty who is called to a case must discontinue further attendance on the patient after the return of the medical man for whom he has been acting. The association will pay fees to the members for Sunday duty. The number of members is already sufficient to allow the plan to be put in operation on Oct. 1st. Dr. Moll is honorary secretary. A similar society already exists in Frankfort, and has worked to the satisfaction of its members.

Association of Municipal Medical Officers.

The chief medical officers in the service of German municipalities have formed themselves into an association, the objects of which are to promote the progress of hygiene in cities and to obtain for the chief medical officers in the municipal service an official position commensurate with the importance of their duties. The latter demand is especially desirable because many cities, including Berlin, have declined to give their chief medical officers a seat in the town council but have made them subordinate to the legal and mercantile members of that body. If the association should succeed in altering that state of affairs it will do a good work not only for its members but also for the medical profession in general as well as for the public. The committee consists of Dr. Rabnow of Berlin-Schöneberg, Dr. Krautwig of Cologne, and Dr. Pötter of Leipsic.

Biographical Records of Medical Men and Naturalists.

The "recorder" of the German Association of Naturalists and Medical Men, Professor Dudhoff, of Leipsic, announces that he is desirous of collecting biographical details relative to prominent members of the association. He states that other professions have provided themselves with such records, but that the medical men and naturalists lag behind in this respect. He therefore invites all the naturalists and medical men to forward to him any letters from deceased savants which they may have in their possession, as well as copies of articles inserted in the daily press on the occasion of a jubilee or similar occurrence and copies of obituary notices. The editors of journals devoted to medical and natural science are also requested to send to the recorder copies containing biographical notices and references.

The Medical Aspect of Sports, Gymnastics, and Other Active Exercises.

A Congress on the Scientific Investigation of Sports was recently held at Oberhof in Thuringia, a fashionable health resort where various sports are freely indulged in, especially during the winter season. The chair was taken by Professor Kraus, of Berlin, and the meeting was attended by some 50 medical men. It was decided to form a permanent committee for the scientific investigation of sports and bodily exercise in connexion with the "sport laboratory" in Charlottenburg, near Berlin. The president, in his inaugural address, drew attention to the value of some forms of sport for strengthening the heart, but uttered a warning against the prevailing tendency to excessive exertion in such exercises, especially by persons of indifferent physique. He recommended that the methods of training should be arranged on scientific lines. Dr. Schmidt, of Bonn, speaking on the hygienic value of school gymnastics, especially for anæmic, rachitic, and scrofulous children, said that gymnastics should be continued after the children have left school, as the heart and the lungs developed markedly during this period. Unfortunately, however, very little was done for bodily exercise from the time the boys left school until they became soldiers. Fräulein Dr. Hirsch, of Berlin, discussed the bodily training of women; she said that exercises suitable for this purpose were too often totally neglected after marriage, and she also spoke against the wearing of corsets, high-heeled shoes, and other unhygienic articles of dress. Professor Nicolai, discussing the influence of sports on the heart, said that statistical data showed that town dwellers and domestic animals had comparatively small hearts because they took too little exercise. Everybody ought to know his ordinary pulse curve, which should resume its normal character 15 minutes after any athletic exercise. Bodily exercises should be continued only as long as breathing with the mouth closed was possible, and must be stopped before the face became pale. Dr. Wilner described observations which he had made during the six days'-bicycling race in Berlin; he said that very interesting results from the scientific, but not from the hygienic, point of view were obtained. Dr. Bieling, of Friedrichroda, spoke on winter sports as a treatment of neurasthenia. Some other readers of papers were as follows: Dr. Mallwitz, of Berlin, on Sport and Sexuality; Dr. Strubel, of Dresden, on Electro-cardiographic Investigation in Swimmers; and Dr. Grützner on the Relations of Alcohol and Bodily Exertion. The social side of the Congress included golf, tennis competitions, and other sports.

Sept. 30th.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

Mortality amongst Mine Employees.

A RETURN was recently published in the Government *Gazette* of the mortality amongst mine employees within the Union for the quarter ended March 31st, 1912. In the Cape Province the death-rate per 1000 per annum is given as follows: from accidents, 0·412; from homicide or suicide, 0·206; from disease, 14·208; and from all causes, 14·826. In Natal the corresponding rates were 1·076, 0·000, 9·686, and 10·762. In the Transvaal the rates were 3·993, 0·373, 22·114, and 26·489 respectively. In the Orange Free State the rates from the same causes were 1·680, 0·000, 19·597, and 21·277. The combined death-rates throughout the Union for the same period were, from accidents, 3·547; from homicide and suicide, 0·331; from disease, 21·028; and from all causes, 24·906. These statistics deal only with the deaths amongst the employees actually on the mines and do not include the very considerable number that have died in other than the mining areas directly or indirectly from previous employment in mining work. Even in mining areas they do not include numbers of deaths which similarly have been caused by previous work in the mines, in persons who at the time of their death were not in mining employ or in the mine hospitals. The statistics, therefore, can be regarded merely as indicating the minimum toll of human life exacted by the mines. This, in the case of the Transvaal, is still appalling. The figures hardly indicate any substantial improvement, for there is reason to believe that natives are more and more encouraged to leave when sick to reduce the death-rates on particular groups of mines.

Ambulance Work Below Ground.

The Chemical, Metallurgical, and Mining Society of South Africa is offering a handsome challenge shield for competition amongst underground mine workers, to be confined to mining teams of five men from any mine in the Union or in Rhodesia. Members of teams must hold certificates from a recognised ambulance association, and the competition will be held as far as possible underground under actual and practical mining conditions. It is proposed to hold the competition annually, the first to be held during the course of next month. Rules and conditions for the competition, prepared by a joint committee of the members of the council of the society and the local branch of the St. John Ambulance Association, will be published for general information in the course of the next few days. If necessary, elimination trials will be held at various centres. Owing to the varying number of European employees engaged on different mines, it is proposed to accept one team from every 100 or fraction of 100 from each mine. The action of the society in offering the shield may give an impetus to the movement for ensuring that when an accident happens underground there shall always be employees available and qualified to render first aid. Miners are generally a sport-loving class, and the competition is arousing great interest amongst them.

Small-pox on the Rand.

During the past few weeks there has been a sharp outbreak of small-pox in Johannesburg and vicinity—a total of 78 cases having occurred to date since July 25th last. Its further spread to any great extent is not now very probable, owing to the vigorous vaccination campaign which was immediately instituted. The outbreak has, however, been a source of considerable anxiety to the municipal and mining officials, owing to the difficulty there usually is in a South African town in tracing the contacts amongst the coloured section of the community. There is a renewal of the agitation by the town council for greater powers, more particularly in connexion with the enforcing of vaccination. Several cases at other centres have been traced to the outbreak in Johannesburg.

Durban Medical Society.

A resolution has been carried instructing the secretary to write to the South African Committee of the British Medical Association suggesting that a fund should be raised from the profession in South Africa as a donation to the guarantee fund of the British Medical Association in Great

Britain to assist the profession there in their struggle with the Government and Friendly Societies.

Demand for Trained Nurses.

For some time past there has been great expansion in hospital work, particularly in the Transvaal and Rhodesia, and the output of nurses from recognised training schools has been insufficient for the increased demand. Moreover, the policy of at least one of the medical councils has been to restrict the number of training schools, whilst the tendency has been general to extend the curriculum and to raise the standard of the examinations. The result is that the hospitals, and especially the smaller ones, find it almost impossible to fill the vacancies in their trained staffs by nurses registered within the Union, and there is an increasing tendency to appoint nurses who have either failed to take out a full training, or, having done so, have failed or neglected to pass a recognised examination. The only solution that readily suggests itself is the recruiting of a large number of trained nurses from the United Kingdom, and some of the hospital authorities appear to be more and more availing themselves of this means. One great difficulty in connexion with the supply of trained nurses in South Africa has always been the wastage that occurs owing to so many marrying soon after the completion of their training or arrival in the country. The subcontinent generally offers a promising field for employment to any certificated nurse with satisfactory credentials who is prepared to emigrate.

Schools in South Africa.

The members of the Tuberculosis Commission have just returned to headquarters at Johannesburg after a prolonged tour, embracing Natal and the native territories of the Cape Province, where they have been personally investigating the prevalence of the disease amongst the Indian and native populations. It is satisfactory to note that the commissioners are not neglecting to turn their attention to school buildings and the conditions of school-life generally in South Africa. They have already taken the evidence of several of the Directors of Education as well as of a number of practitioners especially qualified to deal with the medical aspects of the question. It is to be hoped that the report of the Commission when published will be found to deal comprehensively with a number of school matters that have long been recognised by medical men as needing reform, but for which the profession has never succeeded in securing proper consideration by the authorities. For instance, it is notorious that in all the provinces—with the exception perhaps of the Transvaal—many of the school buildings are exceedingly defective from a medical standpoint, and that in all the educational systems require overhauling with a view to safeguarding the health of the children. As regards school buildings, conditions are generally superior in the Transvaal to those in the other provinces. Since the war much money has been spent in that province on new schools, which are more or less of an approved type, and from the evidence of the Director of Education before the Commission it appears that in recent years the plans of all new school buildings have been submitted to the Transvaal medical officer of health before adoption by the department. In the other provinces apparently this precaution has not been taken, as it would be difficult to believe that the plans of some of the schools erected therein in recent years have ever been considered from a medical standpoint, for some of the new buildings appear to leave much to be desired, particularly as to lighting and ventilation, whilst many of the older structures are stated to be a positive menace to the public health, particularly in the Cape Province. Not only are many of the schools ill lighted and badly ventilated, but even where these defects do not exist the South African schoolmaster is commonly imbued with the idea that it is necessary (except perhaps in the middle of summer) to close up the windows and doors of class-rooms from dread of draughts. When this is done, the atmosphere in the best of class-rooms becomes vitiated after an hour or two, particularly in view of the remarkably small space per inmate prescribed by the departmental regulations. Moreover, it is the exception for a departmental inspector to pay much attention to the ventilation of the class-rooms or to any other sanitary requirement. Many medical men believe that much of the ill-health amongst South African children of school-going age is due to the bad ventilation of class-rooms. Another matter calling urgently for reform is the number of examinations instituted by the education authorities. The piling up of examinations, so common in South Africa, is held by most competent teachers to be a bar to true educational progress. It is condemned by practically every medical man who has cognisance of it. The curriculum is far too crowded. Many of the subjects taught could well be omitted, particularly as the country is now officially a bilingual one and the law requires that both official languages shall be taught after a certain standard has been reached. The overcrowded curriculum is doubtless responsible for the excessive amount of homework required. The school hours are generally a single session of from 9 A.M. to 2 P.M. with a quarter of an hour's break at 11 o'clock. This plan is arranged to suit the convenience of children residing at a distance. The profession is somewhat divided as to the merits of the single session, many holding the view that it is impossible either for the teacher or the child to work satisfactorily for five hours on end. Others consider the double session unsuited to South Africa, as a heavy midday meal is not physiologically sound for children in a warm climate, and this most children would get if the double session were introduced. On the whole, probably the single-session system is the most suited for local conditions, but the break at 11 o'clock might advantageously be lengthened and the latter portion of the session devoted to preparation for the next day's work, thus doing away (for all except the older students) with home lessons, which are generally condemned by the profession. The adequate training of teachers in hygiene, the revision of the curriculum, the abolition of many of the examinations, and above all provision for the medical inspection of schools and school children, are sadly needed in South Africa. Medical inspection must sooner or later come, but none of the present Directors of Education appear particularly to favour it, and judging from the evidence given by some of them before the Commission on Tuberculosis it would seem unlikely that it will be introduced during their respective terms of office.

Sept. 3rd.

Obituary.

GEORGE GRAVES EYRE, M.B., C.M. EDIN.

WE regret to record the death of this well-known Cape practitioner, which occurred at the age of 51, on August 17th, after a prolonged illness. Dr. Eyre graduated at Edinburgh in 1885, and commenced his professional career in South Africa in 1887. He was successively resident house surgeon at the New Somerset Hospital, assistant medical officer at the Robben Island Leper Asylum, and medical superintendent of the Old Somerset Hospital. He afterwards was railway medical officer at Bloemfontein. After holding this position for some two or three years he returned to the Cape Peninsula and commenced practice at Claremont, where he remained until his death. Dr. Eyre was always a keen worker in the cause of the profession. In 1894 he succeeded Dr. Edington as editor of the *South African Medical Journal*, and held this position till 1899, when the South African Medical Association decided that the journal should be discontinued. For many years he was medical officer of health to the Claremont municipality. His funeral was attended by a large procession, including most of the medical practitioners in the Cape Peninsula. The pall-bearers were Sir Edmond Stevenson, M.D., Dr. C. F. K. Murray, Dr. W. J. Dodds, Dr. B. J. Guillemard, Mr. H. A. Moffat, Mr. P. B. Travers Stubbs, Dr. D. J. Wood, and Mr. H. Claude Wright.

THE NEW LONDON DERMATOLOGICAL SOCIETY.—The opening address will be delivered on Thursday, Oct. 10th, at 4.30 P.M., at the Western Skin Hospital, Hampstead-road (close to Tottenham Court-road), by Dr. G. G. S. Stopford-Taylor, of Liverpool, on Some Practical Points in the Treatment of Eczema. This meeting is open to all medical practitioners.

NATIONAL INSURANCE.

NATIONAL HEALTH INSURANCE.

PROVISIONAL REGULATIONS OF THE JOINT COMMITTEE ACTING JOINTLY WITH THE INSURANCE COMMISSIONERS, THE SCOTTISH INSURANCE COMMISSIONERS, AND THE WELSH INSURANCE COMMISSIONERS AS TO THE ADMINISTRATION OF MEDICAL BENEFIT.

ARRANGEMENT OF REGULATIONS.

PART I.

General.

1. Short title.
2. Interpretation.

PART II.

Provision of Medical Attendance.

3. Duty of Committee to make arrangements.
4. Negotiations with Societies.
5. List of deposit contributors.
6. Conditions of service of practitioners.
7. Submission of arrangements.
8. Preparation and submission of rules.
9. Income limit.
10. Approval by Commissioners.
11. Invitation to practitioners.
12. Preparation of medical list.
13. Power to require persons to make their own arrangements for treatment.
14. Power to allow persons to make their own arrangements.
15. Contribution to cost of treatment.
16. Approval of institutions.
17. Publication of medical list.
18. Distribution under capitation system.
19. Distribution under system of payment by attendance.
20. Choice of methods of obtaining treatment.
21. Preparation of lists.
22. Revision of lists.
23. Insured person applying during currency of medical list.
24. Practitioner applying during currency of medical list.
25. Notice of change of address.
26. Notice of suspension of medical benefit of insured person.
27. Changes during currency of medical list.
28. Amount applicable for payment of practitioner.
29. Calculation of remuneration under single system.
30. Calculation of remuneration under combined system.
31. Accounts to be rendered quarterly.

PART III.

Provision of Drugs and Appliances.

32. Prescribed appliances.
33. Prices of drugs and appliances.
34. Conditions of dispensing medicines.
35. Arrangements for supply by practitioners of drugs and appliances.
36. Submission of arrangements.
37. Notice to persons desirous of undertaking supply.
38. List of persons undertaking supply.
39. Right of insured person to obtain drugs and appliances.
40. Revision of list of drugs and appliances.
41. Right to discontinue supply.
42. Inclusion in revised list.
43. Inclusion during currency of list.

PART IV.

Special Provisions.

44. Persons temporarily resident outside the county.
45. Temporary absence from the area of practice of practitioner selected.
46. Mileage.
47. Old and disabled members of Friendly Societies.
48. Committee for dealing with complaints.
49. Duty of Local Medical Committee to consider complaints.
50. Inquiry as to practitioner.
51. Method of inquiry.
52. Inquiry as to person supplying drugs or appliances.
53. Method of inquiry.
54. Approval of forms by Commissioners.
55. Application to Seamen's National Insurance Society.
56. District Committees.
57. Application to Scotland.
58. Application to Wales.
59. Regulations subject to powers reserved to Commissioners.

The Joint Committee of the several bodies of Insurance Commissioners appointed for the purpose of Part I. of the National Insurance Act, 1911, acting jointly with the Insurance Commissioners and the Welsh Insurance Commissioners, hereby certify under Section 2 of the Rules Publication Act, 1893, that on account of urgency the following Regulations should come into operation immediately, and in pursuance of the powers conferred on them by the said Act and by paragraphs 7 and 16 of the National Insurance (Joint Committee) Regulations, 1912, hereby make the following Regulations to come into operation forthwith as provisional Regulations, and the said Joint Committee acting jointly with the Scottish Insurance Commissioners in pursuance of the powers aforesaid hereby make the following Regulations to come into operation forthwith:—

PART I.

General.

1. These Regulations may be cited as the National Health Insurance (Administration of Medical Benefit) Regulations, 1912.

2.—(1) In these Regulations, unless the context otherwise requires:—

"The Act" means the National Insurance Act, 1911.

"The Commissioners" means the Insurance Commissioners or, where by virtue of the National Insurance (Joint Committee) Regulations, 1912, any power is exercisable by the Joint Committee or by the Joint Committee acting jointly with the Commissioners, means the Joint Committee, or the Joint Committee acting jointly with the Commissioners, as the case may require.

"Committee" means the Insurance Committee for any county or county borough.

"County" includes county borough.

"Society" means an Approved Society.

"Member" means a member of a Society who is an insured person under the Act entitled to medical benefit.

"Insured person" means an insured person under the Act entitled to medical benefit.

"Practitioner" means a duly qualified medical practitioner, and, where the Regulations refer to a practitioner attending an insured person, includes a practitioner attending the insured person in lieu of the practitioner in accordance with the terms of his agreement with the Committee.

"Chemist" means any person, firm, or body corporate, entitled to carry on the business of a chemist or druggist under the provisions of the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908.

"Treatment" means medical attendance and treatment of insured persons.

"Drugs" includes medicines.

"Local Medical Committee" means a Local Medical Committee formed for any county and recognised by the Commissioners under Section 62 of the Act, and any references to a Local Medical Committee shall have effect only where a Local Medical Committee has been so formed and recognised.

"Institution" means a system or institution existing on the 16th December, 1911, and providing medical attendance and treatment.

(2) The Interpretation Act, 1889, applies to the interpretation of these Regulations as it applies to the interpretation of an Act of Parliament.

PART II.

Provision of Medical Attendance and Treatment.

3. Every Committee shall as soon as may be make arrangements for securing the treatment of insured persons resident in the county by such practitioners as are willing to undertake the treatment, and shall submit those arrangements for the approval of the Commissioners.

4.—(1) Every Society having members resident in any county shall as soon as may be supply to the Committee a list showing the name of every member so resident, specifying the full postal address of the usual residence of the member.

(2) The Committee shall cause to be furnished to each Society supplying a list of members, and to every other Society which in the belief of the Committee has members resident in the county, a statement of the amount estimated to be necessary in respect of the cost of the medical benefit of the members of that Society and of the administration of that benefit, and the Committee and the Society shall enter into an agreement accordingly, but any agreement so made shall have effect only if and so far as the arrangements made by the Committee in accordance with the Act and these Regulations are approved by the Commissioners.

(3) Where the Commissioners are satisfied, upon such evidence as they think sufficient, that the Committee and any Society are unable to enter into any agreement as aforesaid, the Commissioners shall determine the amount to be paid by the Society to the Committee in such manner as they think fit, after a consideration of any representations made by either party.

5. The Committee shall cause to be prepared as soon as may be a list showing, in respect of each deposit contributor in the county, his name and the full postal address of his usual residence.

6.—(1) With a view to making arrangements with practitioners for the purpose of administering medical benefit, the Committee shall, after consulting the Local Medical Committee, determine the conditions of service upon which it is proposed to invite practitioners to undertake treatment, and the method and rate of remuneration for that treatment, including the rate to be paid in respect of mileage, that is to say, in respect of the obligation to attend insured persons outside the radius from the residence of the practitioner prescribed by these Regulations, and shall embody particulars of those matters in draft agreements.

(2) Every such draft agreement shall include the conditions specified in Part I. of the First Schedule to these Regulations, and one of the methods of remuneration specified in Part II. of that Schedule, provided that the Committee may, if they think fit, subject to the approval of the Commissioners, make any modifications in any of those conditions and methods of remuneration, whether in the case of any one or more practitioners, or combine any of the methods of remuneration.

(3) The Committee shall determine the form and manner in which notice of the terms and conditions including the method and rate of remuneration offered by the Committee is to be given to practitioners, and the form and manner in which a practitioner may intimate his acceptance of those terms and conditions and his desire to be included in the list of practitioners undertaking treatment, which practitioners are in these Regulations collectively referred to as "the panel."

7. As soon as the Committee have determined the matters specified in the last preceding Regulation, they shall submit for the approval of the Commissioners the arrangements proposed to be made accordingly, and in particular:—

(*a*) The draft agreements with practitioners determined by the Committee;
(*b*) the form and manner of notification to, and acceptance by, practitioners of the terms and conditions of service;
(*c*) the agreements proposed to be entered into with Societies, showing separately the amounts proposed to be paid in respect of the cost of medical benefit and the administration thereof;
(*d*) in respect of any Society with which no agreement has been entered into, the amount proposed by the Committee as sufficient, and the amount, if any, offered by the Society;
(*e*) the amount which, in the opinion of the Committee, is properly payable in respect of each deposit contributor for the purposes of the cost of his medical benefit;
(*f*) the method proposed to be adopted by the Committee for the distribution amongst, and assignment to, the practitioners on the panel, of the insured persons who have failed to select a practitioner, or who have been refused by the practitioner whom they have selected;
(*g*) the method proposed to be adopted for administering the medical benefit of insured persons during periods of absence from their usual place of residence, and of insured persons who are temporarily resident in the county;
(*h*) the arrangements proposed to be made by the Committee in respect of persons entitled under Section 15 (2) (*c*) of the Act to the provision of medical attendance and treatment, on the same terms as to remuneration as those arranged with respect to insured persons.

8. The Committee shall, after consultation with the Local Medical Committee, prepare rules to be submitted for the approval of the Commissioners, with regard to the administration of medical benefit by the Committee in accordance with Section 14 of the Act, and shall submit them for the approval of the Commissioners.

9. The Committee shall furnish for the information of the Commissioners a statement of the income limit, if any, proposed to be fixed by the Committee under these Regulations.

10. Before approving any arrangements submitted to them in accordance with these Regulations, the Commissioners shall consider any representations made to them by the Local Medical Committee, and, subject to any alterations made in pursuance of the requirements of the Commissioners, any arrangements so made by the Committee and approved by the Commissioners shall have effect for such period as may be specified in the approval.

11. The Committee shall, as soon as the Commissioners have notified their approval of the arrangements submitted by the Committee and their decision in respect of any questions arising in relation thereto, give notice, in the form and manner approved in accordance with these Regulations, of the terms and conditions upon which practitioners are invited to undertake treatment, and of the form and manner in which acceptance may be notified, and the notice shall specify a period, not being less than 14 or more than 21 days, within which a practitioner is entitled to make application to be included in the list first to be issued of practitioners on the panel.

12.—(1) After the expiration of the period specified in the notice the Committee shall prepare a list of the medical practitioners who have signified their desire to undertake treatment.

(2) Each list so prepared (in these Regulations referred to as "the medical list") shall contain, in addition to the names of practitioners—

(*a*) The private address and the address of any surgery, dispensary, or other place at which any practitioner undertakes to attend for the purpose of treating insured persons;
(*b*) particulars of the days and hours at which he undertakes to be in attendance at each place; and
(*c*) where two or more practitioners practising in partnership have signified their desire to undertake treatment, the name of the firm or partnership;

and may, if the Committee think fit, be so arranged as to show the area in the county in which each practitioner undertakes treatment.

(3) The medical list shall have effect until the 1st January of the year succeeding that for which it is prepared, and the period during which it has effect is referred to in these Regulations as "the currency of the medical list."

(4) The Committee shall fix by its rules, and give public notice of, a date, not being earlier than the 1st November or later than the 1st December in any year, for revision of the medical list, which date is in these Regulations referred to as "the date of revision."

13.—(1) The Committee may fix an income limit for the purpose of the administration of medical benefit, and may require any persons whose income exceeds that limit, in lieu of receiving medical benefit under the arrangements to be made by the Committee under these Regulations, to make their own arrangements for receiving treatment (including medicines and appliances), provided that, in fixing that limit, the Committee may exempt from the necessity of making their own arrangements any insured persons or class of insured persons who, by reason of residence in any specified area of the county or owing to other circumstances, ought in the opinion of the Committee to be exempted.

(2) The Committee, before fixing, varying, or abolishing an income limit, shall give public notice of their intention so to do, and shall consult the Local Medical Committee, and shall consider representations made to them by any Society or association of deposit contributors having members resident in the county.

(3) An insured person whose income exceeds the income limit and who is not exempted by the Committee shall not be entitled to receive medical benefit under the arrangements made by the Committee.

(4) Any Society or association of deposit contributors having members resident in the county, or the Local Medical Committee, or, where no Local Medical Committee exists, any practitioner on the panel, or any chemist or other person, firm, or body corporate undertaking the supply of drugs or appliances under these Regulations, may at any time by notice in writing to the Committee dispute the right of any insured person to receive medical benefit under the arrangements made by the Committee on the ground that the income of that person exceeds the income limit and that he is not entitled to be exempted.

(5) Upon receipt of any such notice the Committee may, if it appears to them that the income of that person exceeds the income limit, and that he is not entitled to be exempted, give notice in writing to that person that unless within a period specified in the notice he shows that his income does not exceed that limit or that he is entitled to be exempted, the Committee will require him to make his own arrangements for receiving treatment (including medicines and appliances), and if within the said period the

insured person fails to show that his income does not exceed that limit or that he is entitled to be exempted, the Committee shall require him to make his own arrangements.

(6) Any decision of the Committee to fix, vary, or abolish an income limit shall only take effect from the commencement of the currency of the medical list.

14. The Committee may allow any insured person resident in the county, in lieu of receiving medical benefit under the arrangements made by the Committee, to make his own arrangements for receiving treatment, including medicines and appliances.

15. There shall be paid to every insured person required or allowed to make his own arrangements by way of contribution to the cost of his treatment (including medicines and appliances)—

(a) in the case of a person who has contracted to obtain treatment (including medicines and appliances) for the year, a sum equal to the amount contracted to be paid by him for that treatment, or, where that amount exceeds the sum available in respect of his medical benefit for the year, the amount so available; and

(b) in the case of any such person, a sum bearing the same proportion to the expense, if any, incurred by him in obtaining treatment (including medicines and appliances), calculated in accordance with a scale of fees fixed by the Committee, as the aggregate amount available for the medical benefit for the year of all such other persons bears to the sums expended by them in obtaining treatment (including medicines and appliances) but in no case exceeding the expense so incurred by him.

Provided that, where the Committee are satisfied, upon any representations made to them by a Society, that, in the case of any member of that Society required or allowed to make his own arrangements, an undue burden falls on the funds of the Society by reason that the treatment (including medicines and appliances) of that person is not such as will adequately protect the funds of the Society, the Committee may reduce the amount so contributed or in the case of a person allowed to make his own arrangements may make no contribution.

16.—(1) The Board of Management or other governing authority of, or person administering, any institution may apply to the Committee to approve the institution for the purposes of Section 15 (4) of the Act.

(2) Upon any such application being made the Committee shall send to the Commissioners such particulars of the institution as the Commissioners may require, and shall state whether the Committee propose to approve that institution and the reasons for the course of action proposed to be adopted, and if the Committee and the Commissioners approve the institution it shall be approved for the purposes of the section aforesaid for the period specified in the approval:

Provided that—

i. No institution shall be approved unless the Committee are satisfied that
   (a) the treatment given by the institution is adequate; and
   (b) every insured person obtaining treatment thereunder is entitled to determine his arrangement with that institution upon giving reasonable notice of his intention so to do at the expiration of the currency of the medical list without thereby incurring any pecuniary loss or other penalty; and

ii. every institution shall as a condition of approval from time to time furnish such accounts and returns as the Commissioners, or the Committee with the consent of the Commissioners, may require.

(3) The Committee may contribute towards the expenses of the treatment furnished by any approved institution to an insured person who elects to obtain treatment through it, an amount equal to the whole or a part of the sum which would be payable by the Committee in respect of an insured person who makes his own arrangements for obtaining treatment (including medicines and appliances) under the last preceding Regulation.

17. Where the Commissioners have approved the arrangements made by the Committee in pursuance of these Regulations, the Committee shall, as soon as may be, publish in any one or more newspapers circulating in the county an announcement containing particulars of the arrangements made by the Committee, including a statement of the places where a copy of the medical list and of a list of approved institutions may be seen, and forms of application obtained, by insured persons, a statement as to the income limit, if any, and any other particulars which the Committee think proper, including such particulars as are necessary to bring to the notice of insured persons their right to select a practitioner on the panel and their rights with respect to obtaining treatment in some other manner.

18. Where a Committee have adopted for the remuneration of practitioners on the panel a system of payment either in whole or in part by capitation, the following provisions shall have effect:—

(1) Every insured person shall, if he desires and is entitled to select a practitioner on the panel, fill up the appropriate form of application, and send or present it to the practitioner by whom he desires to be attended before a date indicated in the announcement referred to in the last preceding Regulation.

(2) Where an application has been received by a practitioner, that practitioner shall within one week notify to the Committee the acceptance or rejection of that application on the appropriate place on the form of application.

(3) After the date indicated in the announcement the Committee shall provide for the distribution, amongst practitioners on the panel and so far as practicable under arrangements made by them, of those insured persons for whose treatment no arrangements have been made.

(4) The Committee shall prepare a list of those persons who have been accepted by, or assigned to, each practitioner on the panel, and shall furnish to each practitioner a copy of the list of persons for whose treatment he is responsible, and each list shall have effect until the 1st January of the year succeeding that for which it is prepared.

(5) Any insured person who desires to be attended by a practitioner other than the practitioner who attended him in the previous year, shall make application to the Committee, not later than one month before the date of revision, and any insured person not making such an application shall be deemed to have selected the practitioner from whom he was entitled to receive treatment in the previous year.

(6) A practitioner desiring to discontinue treatment of an insured person shall give to the Committee notice to that effect not later than one month before the date of revision, and any practitioner not giving notice to the Committee before that date shall be deemed to have undertaken treatment of the insured persons attended by him in the previous year other than those who desire to be attended by another practitioner or who adopt some other arrangement for obtaining treatment or who by reason of death, removal, or some other cause are no longer included in his list.

(7) With regard to any person making application to be attended by another practitioner and any person whom a practitioner has refused to continue to treat the Committee shall so far as may be adopt the procedure above-mentioned for his selection of or assignment to a practitioner on the panel.

(8) As soon as may be after the date of revision the Committee shall issue to each practitioner on the panel a copy of the revised list of the insured persons for whose treatment that practitioner is responsible.

19. Where a Committee have adopted a method of payment by attendance, the following provisions shall have effect:—

(1) An insured person who is not required or does not desire to make his own arrangements for obtaining treatment and does not desire to obtain treatment through an approved institution as his medical benefit shall be entitled, on production to a practitioner on the panel of such voucher or other document as the Commissioners may approve for the purpose, to obtain treatment from that practitioner subject to the consent of the practitioner, who shall signify his consent by endorsing the voucher or other document in such manner as the Commissioners shall require.

(2) Every practitioner shall, if the Committee so require, upon his acceptance of an insured person for treatment, give notice to the Committee upon a form to be provided by the Committee for the purpose.

(3) An insured person who has selected and been accepted by a practitioner in the manner above-mentioned shall be deemed to have selected the practitioner, and shall be entitled to treatment from him, during the currency of the medical list, and during that period shall not be entitled while in the area within which that practitioner has agreed to attend him to obtain treatment from any other practitioner on the panel as part of his medical benefit, except where the circumstances of the case render the attendance of two practitioners necessary.

(4) Any insured person who has selected a practitioner shall be entitled at any time after the expiration of the currency of the medical list on production of the voucher or

other document as aforesaid, to obtain treatment from that practitioner or from any other practitioner on the panel subject to the consent of the practitioner, and shall, upon the endorsement by the practitioner of his voucher or other document, be deemed to have selected and been accepted by that practitioner for the currency of the revised medical list.

(5) Where any insured person gives notice to the Committee that he is unable to obtain treatment from a practitioner on the panel the Committee shall provide for his assignment to a practitioner on the panel so far as practicable under arrangements made by those practitioners.

20.—(1) Every insured person shall before the date indicated in the announcement made by the Committee in accordance with the requirements of these Regulations

(a) if he is required, or desires, to make his own arrangements for obtaining treatment, fill up the appropriate form and send it to the Committee;
(b) if he desires, and is entitled, to obtain treatment as or as part of his medical benefit through an approved institution, fill up the appropriate form and send or present it to the institution.

(2) The Committee shall notify to any insured person applying to be allowed to make his own arrangements their consent or refusal as the case may be.

(3) Where an application has been received by an approved institution, that institution shall within one week notify the acceptance or rejection of the application to the Committee on the appropriate place on the form of application.

21.—(1) The Committee shall prepare a list of those persons who have been accepted by each approved institution, and a list of persons required or allowed to make their own arrangements for obtaining treatment, and shall furnish each approved institution with a copy of its appropriate list.

(2) Any list so prepared shall have effect until the 1st January of the year succeeding that for which it is prepared.

22.—(1) Any insured person who desires to obtain treatment by any of the methods referred to in these Regulations, other than that which he adopted in the previous year, shall make application to the Committee not later than one month before the date of revision, and any insured person not making such an application shall be deemed to have applied to obtain treatment in the same manner as in the previous year.

(2) Any practitioner desiring to withdraw from the panel shall give to the Committee notice to that effect not later than one month before the date of revision, and his name shall thereupon be removed from the medical list.

(3) With regard to any person making application to obtain treatment by any method other than that which he adopted in the previous year, the Committee shall, so far as may be, adopt the procedure provided by these Regulations for enabling an insured person to select his method of treatment.

23.—(1) The Committee shall furnish to any insured person coming to reside in the county, and to any person resident in the county who becomes an insured person during the currency of the medical list, upon application being made by him to the Committee, a statement of the income limit, if any, fixed by the Committee, and copies of the necessary lists and forms, and such person shall, subject to the provisions of these Regulations, be entitled to select the method by which he desires to obtain medical benefit or treatment.

(2) The Committee shall provide for distributing amongst, and so far as practicable under arrangements made by, the practitioners on the panel any insured persons who, having come into residence in the county, and any persons who, having become insured persons, during the currency of the medical list, are unable to obtain treatment by the practitioners chosen by them respectively, or who fail to take the necessary steps to obtain treatment.

24.—(1) If a practitioner, other than a practitioner whose name has been removed from the medical list by the Commissioners, makes application to the Committee during the currency of the medical list, the Committee shall include him in the medical list.

(2) The name of any practitioner who dies during the currency of the medical list or is directed to be removed therefrom by the Commissioners shall thereupon be removed from the medical list, and, in the case of any practitioner who by reason of a change of residence is unable to attend insured persons within the area for which he undertook to give treatment, the necessary alteration shall be made in the medical list.

(3) A copy of the medical list revised up to date shall be kept available for the inspection of any person at the office of the Committee and at such other places as the Committee may think fit.

25.—(1) Where an insured person changes his usual place of residence he shall give notice of that change, in the case of a member of a Society to that Society, and in the case of a deposit contributor to the Committee of the county in which his usual place of residence has theretofore been situated, and the Society or the Committee, as the case may be, shall immediately after the last day of March, June, September, and December in every year notify the names and full postal addresses of those insured persons who have in the preceding three months changed their usual places of residence, to the Committees of the counties in which those persons have respectively taken up their residence.

(2) Every Society having members in the county shall immediately after the dates above mentioned notify to the Committee the names of those of its members who have during the last preceding three months died or ceased to be insured persons.

26. Where the medical benefit of a member of a Society is suspended by reason of his contributions being in arrear, the Society shall give notice to the Committee of the county in which he resides, and the Committee shall, in the case of suspension of the medical benefit of an insured person entitled to obtain treatment from a practitioner on the panel or through an approved institution, give notice to that practitioner or institution.

27. During the currency of the medical list an insured person may be transferred from one practitioner on the panel to another, or from an approved institution to a practitioner on the panel, in the following circumstances and under the following conditions:—

(a) An insured person and the practitioner responsible for his treatment may by consent arrange for the transfer of the insured person to any other practitioner on the panel who is willing to accept the insured person;
(b) where an insured person by reason of a change of residence is no longer able to obtain medical benefit by the method selected by him he may give notice to the Committee, who shall make arrangements so far as may be similar to those prescribed by these Regulations for his selection of or assignment to a practitioner on the panel;
(c) where the Committee after inquiry into a complaint consider it desirable that an insured person should be transferred, the Committee may arrange with another practitioner on the panel to undertake the treatment of that person;
(d) where the name of a practitioner has been removed from the medical list or where a practitioner has ceased to practise within the area within which he has undertaken treatment he or his legal personal representative, as the case may be, may notify to the insured persons concerned that he has made arrangements with another practitioner on the panel to undertake the treatment of those persons and subject to their consent may transfer them to that other practitioner, and if any insured person is unwilling to be so transferred he shall give notice to the Committee who shall make arrangements so far as may be similar to those prescribed by these Regulations for his selection of or assignment to another practitioner;
(e) subject as aforesaid the provisions of these Regulations relating to insured persons coming to reside within the county during the currency of the medical list shall apply to insured persons who were attended by a practitioner whose name has been removed from the medical list or who has ceased to practise within the area within which he has undertaken treatment and to insured persons who were obtaining treatment through an approved institution which has ceased to be approved.

Provided that, where an insured person has been transferred by consent, the practitioner to whom he has been transferred shall within seven days of the transfer give notice thereof to the Committee on the form to be provided by the Committee for that purpose, and the notice shall be signed by the insured person and both the practitioners concerned or, in the event of the death or total incapacity of a practitioner, by the insured person and the practitioner to whom he is transferred.

28.—(1) For the purpose of determining the amount of remuneration payable to each practitioner on the panel, the Committee shall, at the end of each year, determine the total amount to be applied in defraying the cost of the medical benefit of insured persons obtaining treatment from practitioners on the panel, and shall deduct from that amount the amounts payable in respect of

(a) The provision of drugs and prescribed appliances;
(b) mileage; and
(c) the cost of the medical benefit during periods of temporary residence outside the county of insured persons usually resident in the county and entitled to obtain treatment from a practitioner on the panel.

(2) There shall be paid to each practitioner on the panel out of the sum remaining after making the deductions aforesaid (in these Regulations referred to as the "net fund") an amount calculated in accordance with the method of remuneration adopted by the Committee.

29.—(1) Where the Committee have adopted a capitation system of payment, they shall credit to each practitioner on the panel, in respect of each of the persons included in his list, an amount (in these Regulations referred to as a "capitation fee") calculated in accordance with the rate contained in the practitioner's agreement with the Committee.

(2) Where the Committee have adopted a system of payment by attendance, they shall credit to each practitioner on the panel, in respect of each service rendered by him an amount (in these Regulations referred to as an "attendance fee") calculated in accordance with the rate contained in his agreement with the Committee.

(3) The Committee shall ascertain the aggregate amounts so credited to the practitioner, and the aggregate amounts so credited to all practitioners on the panel, and shall pay to each practitioner an amount bearing the same proportion to the sum credited to him as the net fund bears to the aggregate amounts so credited to all the practitioners.

30. Where the Committee have adopted a method of remuneration which combines a capitation system with a system of payment by attendance (the capitation fees or the attendance fees, as the case may be, being payable in priority), the Committee shall pay to each practitioner out of the net fund the fees credited to him which are payable in priority, and shall pay to each practitioner, out of the balance of the net fund, in respect of other fees credited to him, an amount bearing the same proportion to those fees as the balance of the net fund bears to the aggregate amounts of such other fees credited to all the practitioners on the panel.

31.—(1) Every practitioner on the panel shall furnish to the Committee immediately after the last days of March, June, September, and December respectively in every year an account in a form approved by the Committee, containing such particulars as may be necessary for calculating the amount of remuneration payable to him by the Committee.

(2) As soon as may be after the receipt of an account the Committee shall pay to the practitioner such sum as may be agreed between the Committee and the practitioners on the panel in advance of the amount due to him, and shall pay the balance of the amount so due as soon as may be after the expiration of the year, but before payment of the balance the Committee shall submit all accounts to a committee appointed by the practitioners on the panel which shall have power to reduce or disallow any item of any account.

PART III.

Provision of Drugs and Appliances.

32. The medical and surgical appliances to be provided as part of medical benefit shall be the appliances mentioned in the Second Schedule to these Regulations.

33.—(1) With a view to making arrangements for the supply of drugs and appliances the Committee shall—

(*a*) Prepare a list of the prices which the Committee are willing to pay for the drugs ordinarily supplied and for the prescribed appliances; and

(*b*) determine the conditions upon which it is proposed to invite chemists and other persons, firms, or bodies corporate (all of whom are in these Regulations included in the expression "chemists or other persons") to undertake the supply of drugs or appliances or both.

(2) The Committee shall embody particulars of those prices and conditions in draft agreements which shall include the terms and conditions specified in the Third Schedule to these Regulations, with the necessary modifications in the case of a person undertaking to supply drugs or appliances only, or not entitled to dispense medicines, and with such other modifications as the Committee may, subject to the approval of the Commissioners, think fit.

34.—The Committee shall determine the form and manner in which notice is to be given to chemists and other persons desiring to supply drugs or appliances or both, and the form in which any such chemist or other person may intimate his acceptance of those terms and conditions, but that notice shall state that no person shall be entitled to dispense medicines for insured persons under the arrangements made with chemists and other persons by the Committee other than a chemist who undertakes that all medicines supplied by him to insured persons under the arrangements made by the Committee shall be dispensed either by or under the direct supervision of a registered pharmacist or by a person who, for three years immediately prior to the 16th December, 1911, has acted as a dispenser to a practitioner or a public institution.

35.—(1) The Committee may make arrangements for the supply by practitioners on the panel of all or any of the following:—

(*a*) Drugs which are necessarily or ordinarily administered by a practitioner in person; and

(*b*) drugs and appliances required for immediate administration or application, or required for use before a supply can conveniently be obtained otherwise under these Regulations.

(2) Where the Committee are satisfied that an insured person, by reason of distance or inadequacy of means of communication, will have difficulty in obtaining any necessary drugs or appliances from a chemist or other person on the list, the Committee shall make arrangements for the supply to such person by the practitioner attending him of such drugs or appliances as would otherwise under these Regulations have been supplied by a chemist or other person on the list.

36. (1) The Committee shall as soon as may be submit for the approval of the Commissioners the arrangements proposed to be made by the Committee for the supply of drugs and appliances, and in particular—

(*a*) The draft agreements determined by the Committee;

(*b*) the form and manner of notification to, and acceptance by, chemists and other persons of the terms and conditions upon which persons shall undertake the supply of drugs or appliances or both; and

(*c*) the arrangements made by the Committee for the supply by practitioners on the panel of drugs and appliances.

(2) Subject to any alterations made in pursuance of the requirements of the Commissioners, any arrangements so made by the Committee and approved by the Commissioners shall have effect for such period as may be specified in the approval.

37.—The Committee shall, as soon as the Commissioners have notified their approval of the arrangements made by the Committee, give notice, in the form and manner approved in accordance with the last preceding Regulation, of the terms and conditions upon which persons shall undertake the supply of drugs or appliances or both, and of the form and manner in which acceptance may be notified, and that notice shall specify a period, not being less than 14 or more than 21 days, within which a chemist or other person is entitled to make application to be included in the list first to be issued.

38.—(1) After the expiration of the period specified in the notice the Committee shall prepare a list of the names and addresses of the chemists and other persons who have signified their acceptance, indicating whether they have undertaken to supply drugs or appliances or both, and distinguishing those who are entitled to dispense medicines.

(2) The list shall have effect until the 1st January of the year succeeding that for which it is prepared.

(3) A copy of the list shall be sent to every practitioner on the panel, and shall be available for the inspection of insured persons at the office of the Committee and in such other way as the Committee may think fit.

(4) The Committee shall supply to every chemist or other person included in the list a copy of the medical list, and every chemist or other person shall exhibit at his place of business a notice in the form prescribed in the Fourth Schedule to these Regulations indicating that he has undertaken to supply drugs or appliances or both, as the case may be, under the arrangements made by the Committee.

39.—(1) Every insured person obtaining medical benefit under the arrangements made by the Committee shall be entitled to obtain as part of his medical benefit such drugs and prescribed appliances as may be ordered for him by the practitioner attending him from any chemist or other person whose name is on the list and who is entitled and has undertaken to supply those drugs and appliances.

(2) An insured person shall not be entitled to obtain from a chemist or other person on the list any appliance if the Committee have made provision for lending that appliance.

(3) Where any drug not included in the list of drugs is ordered or supplied by a practitioner the price payable by the Committee shall be such as may be fixed by agreement, or in default of agreement determined by the Commissioners.

40.—(1) The Committee shall not later than two months before the date of revision in every year, after consultation with the Local Medical Committee, submit for the approval of the Commissioners a statement of any alterations which the Committee may desire to make in the price of drugs and prescribed appliances, and where the Commissioners have prescribed any further appliances, of the prices which the Committee are prepared to pay for those appliances.

(2) The Commissioners shall subject to the alterations, if any, which they may require to be made by the Committee approve the statement.

(3) The Committee shall as soon as may be after such approval send a copy of the statement to every chemist or other person included in the list and to every practitioner on the panel.

41.—(1) Any chemist or other person desiring to have his name removed from the list shall give notice in writing of his desire to the Committee not later than one month after the issue to him of the statement of alterations made by the Committee, or where no statement has been issued, not later than one month before the date of revision, and thereupon his name shall be removed from the list.

(2) Any chemist or other person not giving such notice to the Committee shall be deemed to have undertaken to supply drugs or appliances or both upon the same terms as in the previous year, subject to such modifications as are mentioned in the statement of alterations, if any, issued to him by the Committee.

42.—(1) Any chemist or other person may make application to the Committee in any year not later than one month before the date of revision to be included in the revised list, and shall thereupon, unless he has previously been excluded from the list by the Commissioners be included in the revised list.

(2) As soon as may be after the date of revision the Committee shall prepare a revised list.

(3) A copy of the revised list shall be sent to every practitioner on the panel and shall be available for the inspection of insured persons at the office of the Committee, and in such other way as the Committee may think fit.

43.—(1) Where a chemist or other person commences to carry on business in the county during the currency of the list and desires to undertake the supply of drugs or appliances or both under the arrangements made by the Committee, he shall upon application to the Committee be entitled forthwith to be included in the list.

(2) Where upon the death of a chemist included in the list the business is carried on in accordance with the provisions of the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908, by his legal personal representative or the trustee of his estate, that legal personal representative or trustee shall be deemed to be a person included in the list so long as the business is carried on by him in accordance with the provisions of those Acts.

PART IV.

Special Provisions.

44.—(1) The Committee shall in every year determine the sum to be expended in defraying the cost of medical benefit during periods of temporary residence outside the county of insured persons usually resident in the county and entitled to treatment from a practitioner on the panel.

(2) The Committee shall make arrangements with practitioners on the panel for the county to undertake the treatment of insured persons temporarily resident in that county.

(3) A copy of a list containing the names and addresses of practitioners with whom arrangements have been made under this Regulation shall be available in such manner as the Committee think fit in order to bring it to the notice of the persons concerned.

(4) Where an insured person entitled to obtain treatment from a practitioner on the panel is temporarily resident outside the county in which he usually resides, he shall be entitled on production of such evidence as the Committee, with the approval of the Commissioners, may determine to any practitioner whose name is included in the above-mentioned list to obtain treatment from that practitioner, and, subject to the provisions of these Regulations, to obtain drugs and appliances.

(5) The practitioner attending insured persons temporarily resident as aforesaid shall at such intervals as the Committee providing medical benefit require notify to that Committee the names and addresses of persons so attended by him, together with the names of their respective Societies and branches and their respective numbers in the books of their Societies, and the Committee shall send an account of the cost thereof, in a form approved for the purpose by the Commissioners, to the Committee of the county in which each of the persons so attended usually resides, and such payment therefor shall be made as has been fixed by agreement between the Committees concerned with the approval of the Commissioners or, in default of agreement, has been determined by the Commissioners: Provided that where the person receiving medical benefit is resident in Ireland the Committee providing medical benefit shall send an account of the cost thereof to the Irish Insurance Commissioners.

45. The Committee shall make arrangements with the practitioners on the panel for the treatment of insured persons resident in the county during periods of temporary absence from the area in which the practitioner responsible for their treatment has undertaken to treat them: Provided that no insured person shall be entitled to obtain treatment under the provisions of this Regulation if he has gone outside the area in which a practitioner has undertaken to treat him solely for the purpose of obtaining treatment from some other practitioner.

46.—(1) The Committee shall make arrangements for an additional payment in respect of mileage to be made, where the circumstances of the area require, to practitioners on the panel in respect of their obligation to attend insured persons resident beyond the prescribed distance from the residence of the practitioner, and the prescribed distance shall be three miles or such lesser distance as the Committee having regard to the special difficulties of access to the residence of the insured person may in any case agree with the practitioner.

(2) No payment shall be made where the services of a practitioner resident within the prescribed distance from the residence of the insured person are available for that person.

(3) The distance from the residence of the insured person of the residence of the nearest practitioner whose services are available for that person shall be taken as the basis upon which payment shall be calculated.

(4) The payment shall be an annual or quarterly payment, calculated on the basis of the number of insured persons whose treatment the practitioner has undertaken and the distance of the residences of those persons calculated in the manner aforesaid, regard being had to the facilities for locomotion and to the proximity of the insured persons to one another, or in such other manner not inconsistent with the preceding paragraphs of this Regulation as the Committee with the consent of the Commissioners think fit.

47.—(1) Any person who was on the 16th December, 1911, and still is, a member of a Friendly Society which or a separate section of which is an Approved Society, and who is not entitled to medical benefit under the Act by reason either that he was on the 15th July, 1912, of the age of 65 or upwards, or that being subject to permanent disablement at that date he is not qualified to become an insured person, or the secretary or other officer of the Society of which he is a member on his behalf may give notice to the Committee of the desire of that person to obtain medical attendance and treatment on the same terms as to remuneration as those arranged with respect to insured persons, and where the notice is given personally it shall be countersigned by the secretary or other officer of the Society.

(2) Upon payment to the Committee of such sum as they shall ascertain to be the average cost of the medical attendance and treatment of insured persons, these Regulations shall have effect so far as relates to the medical attendance and treatment of that person as if he were an insured person.

48.—(1) Every Committee shall, from time to time and for such a period as they think fit, constitute a special Subcommittee (in these Regulations referred to as "the Committee of Complaints") for dealing with any complaint made by an insured person against a practitioner who attends him under the arrangements made by the Committee in respect of the discharge by the practitioner of his professional duties towards the insured person or by a practitioner against an insured person whom he attends under the arrangements made by the Committee in respect of the

conduct of the insured person towards the practitioner when engaged in those duties.

(2) The Committee of Complaints shall be constituted in the following manner:—

(i.) Three persons shall be appointed by and from the members of the Committee who represent insured persons;
(ii.) three persons shall be appointed by the Local Medical Committee, or if no Local Medical Committee exists, by the practitioners on the panel
(iii.) a chairman shall be selected from those members of the Committee appointed respectively by the Council of the County and by the Commissioners who are neither insured persons nor practitioners, and the selection shall be made by the six persons appointed as above mentioned, or in default of selection being made by those persons, by the members of the Committee appointed respectively by the Council of the County and by the Commissioners;

provided that if in the opinion of the chairman any member of the Committee of Complaints is interested, or in the case of a practitioner is partner or assistant to a practitioner interested in the dispute, that member shall take no part in the hearing of the complaint, but another member shall be appointed in the manner aforesaid by the persons by whom that member was appointed.

(3) Every complaint shall be made in writing and addressed to the Clerk to the Committee, and shall be referred by him to the Committee of Complaints.

(4) The Committee may also refer to the Committee of Complaints any complaint against an insured person or a practitioner on the panel other than complaints above referred to.

(5) The proceedings before the Committee of Complaints shall be private, and no person shall be admitted to those proceedings except—

(*a*) the person making complaint and the person against whom complaint is made;
(*b*) the secretary or other officer of the Society, if any, to which the insured person belongs;
(*c*) the secretary or other officer of the Local Medical Committee; and
(*d*) such other person as the Committee of Complaints may upon the application of either party admit by reason of the fact that his attendance is required for the purposes of the proceedings or to assist either party in the presentation of his case;

but neither party shall be represented before the Committee of Complaints by counsel or by solicitor.

(6) The quorum of the Committee of Complaints and their procedure with regard to the hearing of the complaint, the nature of the evidence admitted and otherwise shall be such as may be fixed by the Committee of the county subject to the approval of the Commissioners.

(7) The Committee of Complaints shall draw up a report stating such relevant facts as appear to them to be established by the evidence placed before them, together with a recommendation as to the action, if any, which should be taken, and shall present the report to the Committee, and the Committee shall accept as conclusive any finding of fact contained in the report.

(8) Where a complaint made by a practitioner against an insured person is in the opinion of the Committee substantiated, the Committee may, if the practitioner so desires, make arrangements for the transfer of the insured person in accordance with the provisions of these Regulations and may deal with him under the rules of the Committee relating to fines and to suspension of medical benefit.

(9) Where a complaint made by an insured person against a practitioner is in the opinion of the Committee substantiated, the Committee may, if the insured person so desires, make arrangements for his transfer in accordance with the provisions of these Regulations, and may, if in the opinion of the Committee the continuance of the practitioner on the panel will be prejudicial to the efficiency of the medical service, make representations to that effect to the Commissioners.

49. It shall be the duty of the Local Medical Committee to consider any complaint made by a practitioner on the panel against any other practitioner on the panel involving any question of the efficiency of the medical service of insured persons, and the Local Medical Committee may apply to the Commissioners to remove the name of the practitioner against whom complaint is made from the panel, or may take such other action as they may deem proper in the circumstances.

50. If any representations are made to the Commissioners by a Committee or a Local Medical Committee that the continuance of a practitioner on the panel will be prejudicial to the efficiency of the medical service of insured persons, the Commissioners shall, and if any similar representations are made by any other body or any person, may, if they think fit, hold an inquiry in the manner hereinafter provided.

51.—(1) The Joint Committee of the several bodies of Commissioners shall from time to time and for such period as they think fit constitute a body of 16 practitioners, and shall have power to fill up any vacancies as they may occur.

(2) In selecting the practitioners to be members of that body the Joint Committee shall consider suggestions, if any, made by any body which appears to them to be representative of the medical profession, and shall include so far as practicable practitioners having special knowledge of the several branches of medicine or surgery as well as practitioners in general practice.

(3) For the purpose of each inquiry the Commissioners shall select from that body two persons, and shall appoint two other persons one of whom shall be a barrister-at-law or solicitor in actual practice, who with the two persons above mentioned shall form a committee (in these Regulations referred to as the Enquiry Committee) for the purpose of that enquiry.

(4) The Enquiry Committee shall appoint one of its members to be chairman, but the chairman shall not have a casting vote.

(5) Either party may appear in person, or, with the consent of the Enquiry Committee,—

(*a*) By counsel or by solicitor;
(*b*) by any member of his family;
(*c*) in the case of a company or corporation, by any director or officer of the company or corporation; or
(*d*) by any officer or member of any Society or other body of persons of which the person in question is a member or with which he is connected.

(6) The Enquiry Committee shall take into consideration in addition to oral evidence such written evidence as they may in each case think fit, and may, if they think fit, require any statement to be verified by a statutory declaration, and the procedure of the Enquiry Committee shall be such as they may with the approval of the Commissioners think fit.

(7) Upon the determination of the hearing, the Enquiry Committee shall as soon as may be draw up a report or reports stating such relevant facts as appear to them to be established by the evidence, and the inferences, if any, which in the opinion of the Enquiry Committee may properly be drawn from those facts, but the report or reports shall contain no recommendation as to any course of action.

52. If any representations are made to the Commissioners by a Committee or a Local Medical Committee that the inclusion or continuance on the list of a chemist or other person will be prejudicial to the efficiency of the service in the county, the Commissioners shall, and if any similar representations are made by any other body or any person may, if they think fit, hold an inquiry in the manner hereinafter provided.

53.—(1) The Joint Committee shall from time to time and for such period as they think fit constitute a body of 16 persons, and shall have power to fill up any vacancies as they may occur.

(2) In selecting the said 16 persons to be members of that body the Joint Committee shall consider the suggestions, if any, made by the Council of the Pharmaceutical Society of Great Britain.

(3) For the purpose of each inquiry the Commissioners shall select two persons from that body and shall appoint two other persons, one of whom shall be a barrister-at-law or solicitor in actual practice, who with the two persons above mentioned shall form a committee for the purpose of that inquiry.

(4) The procedure, powers and duties of the Committee shall be similar to those of the Enquiry Committee.

54. All forms required by these Regulations to be provided by a Committee shall be submitted by that Committee for the approval of the Commissioners.

55. These Regulations shall only apply to members of the Seamen's National Insurance Society where that Society has agreed with a Committee for the administration by the Committee of medical benefit to individual members of the Society.

56. Where, in pursuance of any Regulations made by the Commissioners under Sub-section (4) of Section 59 of the Act, any powers or duties of the Committee under these

Regulations are conferred upon District Committee, these Regulations shall have effect so far as those powers and duties are concerned, and subject to any modifications made by those Regulations as if the District Committee were in these Regulations substituted for the Committee.

57. These Regulations in their application to Scotland shall be subject to the following modifications:—

(1) "The Commissioners" means the Scottish Insurance Commissioners, or where by virtue of the National Insurance (Joint Committee) Regulations, 1912, any power is exercisable by the Joint Committee or the Joint Committee acting jointly with the Scottish Insurance Commissioners, means the Joint Committee or the Joint Committee acting jointly with the Scottish Insurance Commissioners, as the case may require.
(2) "County" means the district for which an Insurance Committee has been constituted under Part I. of the Act, and includes Burghs or Police Burghs or a combination of Counties or of Burghs for which an Insurance Committee has been so constituted.
(3) References to the National Health Insurance (Collection of Contributions) Regulations, 1912, shall be construed as references to the National Health Insurance (Collection of Contributions) Regulations (Scotland), 1912.
(4) "County Borough" means Burgh or Police Burgh, and in the case of the Burghs of Dumfries and Maxwelltown means the Burghs as combined for the purposes of Part I. of the Act.
(5) "Barrister-at-Law" means a member of the faculty of Advocates.
(6) "Solicitor" means an enrolled law agent.
(7) In any County where, owing to sparseness of population, difficulties of communication or other special circumstances, the Committee consider it desirable they shall have power with the consent of the Commissioners to adopt such method of remuneration of practitioners undertaking treatment in such County as the Committee may think necessary.

58. These Regulations in their application to Wales shall be subject to the following modifications—

(1) "The Commissioners" means the Welsh Insurance Commissioners, or where by virtue of the National Insurance (Joint Committee) Regulations, 1912, any power is exercisable by the Joint Committee or by the Joint Committee acting jointly with the Welsh Insurance Commissioners means the Joint Committee or the Joint Committee acting jointly with the Welsh Insurance Commissioners as the case may require.
(2) References to the National Health Insurance (Collection of Contributions) Regulations, 1912, shall be construed as references to the National Health Insurance (Collection of Contributions) Regulations (Wales), 1912.

59. These Regulations shall have effect subject to the exercise by the Commissioners of the powers reserved to them by the proviso to Subsection (2) of Section 15 of the Act.

Given under the seal of office of the aforesaid Joint Committee this .....day of ....., in the year one thousand nine hundred and twelve.

Given under the seal of office of the Insurance Commissioners this ..... day of ..... in the year one thousand nine hundred and twelve.

Given under the seal of office of the Scottish Insurance Commissioners this ..... day of ....., in the year one thousand nine hundred and twelve.

Given under the seal of office of the Welsh Insurance Commissioners this ..... day of ....., in the year one thousand nine hundred and twelve.

THE FIRST SCHEDULE.

PART I.

Conditions of Service for Practitioners.

1. The practitioner shall give to all persons who are for the time being entitled to obtain treatment from him (all or any of whom are hereinafter referred to as the "patients" or "patient" as the case may be) such treatment as is of a kind which can consistently with the best interests of the patient be properly undertaken by a practitioner of ordinary professional competence and skill; Provided that the practitioner shall not be required to give, nor entitled to make any charge for treatment to any person in respect of a confinement, nor to any person suffering from tuberculosis or any other disease the treatment of which may hereafter be included in sanatorium benefit, in so far as that person has been recommended for, and is entitled to, obtain that treatment as part of his sanatorium benefit.

2. Where the condition of the patient is such as to require services beyond the competence of an ordinary practitioner, the practitioner shall advise the patient as to the steps which should be taken in order to obtain such treatment as his condition may require.

3. The practitioner shall visit at the place of residence for the time being of the patient, or at any other place within the county within a distance of three miles by road from the residence of the practitioner where the patient may be for the time being, any patient whose condition so requires.

4. The practitioner shall attend and treat at the places specified for the purpose, and on such days and at such hours as are so specified, any patient who attends there for that purpose: Provided that if at any time the practitioner decides to alter the places, days, or hours of his attendance, or any of them, he shall give not less than 7 days' notice in writing to the Committee and to each of the insured persons for the time being entitled to obtain treatment from him.

5. The practitioner shall order in the form provided by the Committee for the purpose such drugs and prescribed appliances as are requisite for the treatment of any patient other than those which the practitioner may be under arrangement himself to supply: Provided that if the practitioner orders any drug not included in the list from time to time supplied by the Committee to the practitioner or orders any drug for a person not usually resident in the county, he shall give such orders on special forms for those purposes provided by the Committee.

6. All treatment shall be given by the practitioner personally, except where he is prevented from so doing by urgency of other professional duties, absence from home, or other reasonable cause, and the practitioner will to the best of his ability provide that when he is so precluded from personal attendance some other practitioner will give attendance as his deputy on his behalf: Provided that where treatment is given by a deputy the deputy shall be entitled to treat patients at places other than those specified in the practitioner's agreement with the Committee.

7. It shall be a condition of the service of practitioners that the Act and the Regulations made by the Commissioners and in force for the time being in the county are incorporated with and form part of the other conditions of service, and that any agreement entered into by a practitioner shall cease to have effect in the event of the Commissioners exercising any of the powers conferred on them by the proviso to Subsection (2) of Section 15 of the Act.

PART II.

Methods of Remuneration of Practitioners undertaking Treatment.

A.

The rate of ..... shillings a quarter—that is to say, the period of three months preceding the last day of March, June, September, and December respectively, in respect of each person included in the list of the practitioner, the number of those persons during any quarter to be ascertained by adding the number of persons included at the close of that quarter to the number of persons included at the commencement of the quarter and dividing the total by two.

[*Note.*—An adjustment will be required in the case of a practitioner being placed on the panel after the commencement of any quarter.]

B.

In priority, the rate of.....shillings a quarter—that is to say, the period of three months preceding the last day of March, June, September, and December respectively in respect of each person included in the list of the practitioner, the number of those persons during any quarter to be ascertained by adding the number of persons included at the close of that quarter to the number of persons included at the commencement of the quarter and dividing the total by two.

[*Note.*—An adjustment will be required in the case of a practitioner being placed on the panel after the commencement of any quarter.]

Other rates for all or any of the following special services:—

	£ s. d.
(1) Special visit—i.e., visit paid by the patient's desire on the same day as a call received after ..... A.M., or on Sunday	
(2) Night visit—i.e., visit paid between the hours of 8 P.M. and 8 A.M. in response to a call received between those hours	
(3) Consultation—	
(a) for the ordinary attendant...	
(b) for the consultant (if himself a practitioner on the panel)	
(4) Surgical operation requiring local or general anæsthetic	
(5) Setting of fracture	
(6) Reduction of dislocation	
(7) Administration of general anæsthetic	
(8) Treatment of tuberculosis in so far as the patient is not entitled to obtain such treatment as part of sanatorium benefit—	
(a) per visit...	
(b) per attendance at practitioner's residence, surgery, or dispensary	
(9) Treatment of abortion or miscarriage in so far as not included in maternity benefit	

C.

In priority, the rate of.....shillings a quarter—that is to say, the period of three months preceding the last day of March, June, September, and December respectively, in respect of each person included in the list of the practitioner, the number of those persons during any quarter to be ascertained by adding the number of persons included at the close of that quarter to the number of persons included at the commencement of the quarter and dividing the total by two.

[*Note.*—An adjustment will be required in the case of a practitioner being placed on the panel after the commencement of any quarter.]

Other rates for the following services:—

	£ s. d.
(1) Visit to the patient's residence	
(2) Attendance on the patient at the practitioner's residence, surgery, or dispensary	
(3) Special visit—i.e., visit paid by the patient's desire on the same day as a call received after ..... A.M., or on Sunday	
(4) Night visit—i.e., visit made between the hours of 8 P.M. and 8 A.M. in response to a call received between those hours	
(5) Consultation—	
(a) for the ordinary attendant	
(b) for the consultant (if himself a practitioner on the panel)	
(6) Surgical operation requiring local or general anæsthetic	
(7) Setting of fracture	
(8) Reduction of dislocation	
(9) Administration of general anæsthetic	
(10) Treatment of tuberculosis in so far as the patient is not entitled to obtain such treatment as part of sanatorium benefit—	
(a) per visit...	
(b) per attendance at practitioner's residence, surgery, or dispensary	
(11) Treatment of abortion or miscarriage in so far as not included in maternity benefit	

D.

In priority, rates for all or any of the following special services:—

	£ s. d.
(1) Special visit—i.e., visit paid by the patient's desire on the same day as a call received after..... A.M., or on Sunday	
(2) Night visit—i.e., visit made between the hours of 8 P.M. and 8 A.M. in response to a call received between those hours	
(3) Consultation—	
(a) for the ordinary attendant	
(b) for the consultant (if himself a practitioner on the panel)	
(4) Surgical operation requiring local or general anæsthetic	
(5) Setting of fracture	
(6) Reduction of dislocation	
(7) Administration of general anæsthetic	
(8) Treatment of tuberculosis in so far as the patient is not entitled to receive such treatment as part of sanatorium benefit—	
(a) per visit...	
(b) per attendance at the practitioner's residence, surgery, or dispensary	
(9) Treatment of abortion or miscarriage in so far as not included in maternity benefit	

A further rate of ..... shillings a quarter—that is to say, the period of three months preceding the last day of March, June, September, and December respectively, in respect of each person included in the list of the practitioner, the number of those persons during any quarter to be ascertained by adding the number of persons included at the close of that quarter to the number of persons included at the commencement of the quarter and dividing the total by two.

[*Note.*—An adjustment will be required in the case of a practitioner being placed on the panel after the commencement of any quarter.]

E.

Rates for the following services:—	£ s. d.
(1) Visit to the patient's residence	
(2) Attendance on the patient at the practitioner's residence, surgery, or dispensary	
(3) Special visit—i.e., visit paid by the patient's desire on the same day as a call received after ..... A.M. or on Sunday	
(4) Night visit—i.e., visit made between the hours of 8 P.M. and 8 A.M. in response to a call received between those hours	
(5) Consultation—	
(a) for the ordinary attendant	
(b) for the consultant (if himself a practitioner on the panel)	
(6) Surgical operation requiring local or general anæsthetic	
(7) Setting of fracture	
(8) Reduction of dislocation	
(9) Administration of general anæsthetic	
(10) Treatment of tuberculosis in so far as the patient is not entitled to obtain such treatment as part of sanatorium benefit—	
(a) per visit...	
(b) per attendance at practitioner's residence, surgery, or dispensary	
(11) Treatment of abortion or miscarriage in so far as not included in maternity benefit	

THE SECOND SCHEDULE.

LIST OF APPLIANCES.

Bandages:
- *Calico, bleached.*
- *Calico, unbleached.*
- *Crepe.*
- *Domette.*
- *Flannel.*
- *Indiarubber.*
- *Muslin.*
- *Plaster of Paris.*

Gauzes:
- *Unmedicated.*
- *Boric.*
- *Carbolic.*
- *Cyanide.*
- *Sal-alembroth.*
- *Sublimate.*

Lints:
- *Unmedicated.*
- *Boric.*
- *Sal-alembroth.*

Wools:
- *Cotton.*
- *Wood.*

Oiled silk.
Guttapercha tissue
Adhesive plaster
Ice-bags.
Splints.
Catheters:
- *Gum-elastic.*
- *Soft rubber.*

THE THIRD SCHEDULE.

CONDITIONS OF AGREEMENT FOR SUPPLY OF DRUGS AND APPLIANCES BY CHEMIST.

1. The chemist will be prepared to supply, and so far as practicable will keep in stock, the drugs and medical and surgical appliances specified for the purpose.

2. The chemist will, with reasonable promptness, supply to any person presenting an order for drugs or appliances in a form provided by the Committee for the purpose, and signed by any practitioner on the panel or his deputy, such drugs or appliances as are so ordered.

3. All drugs and appliances shall be of good quality, and shall be supplied at a price covering the cost of retailing and dispensing, and calculated by reference to the prices specified for the purpose, and in the case of substances to which the provisions of Section 5 of the Poisons and Pharmacy Act, 1908, relate, the provision of proper bottles and other vessels, and any drug, the price of which is not so specified, shall be supplied by the chemist at a price to be agreed with the Committee or in default of agreement to be determined by the Commissioners.

4. The dispensing of medicines shall be performed either by or under the direct supervision of a registered pharmacist or by a person who for three years immediately prior to the 16th December, 1911, has acted as a dispenser to a practitioner or a public institution.

5. All drugs and appliances shall be supplied free of charge to the person presenting such order.

6. It shall be a condition of undertaking the supply of drugs or appliances or both that the Act and the Regulations made by the Commissioners and in force for the time being in the county are incorporated with and form part of the other conditions, and that any agreement entered into by a chemist shall cease to have effect in the event of the Commissioners exercising any of the powers conferred on them by the proviso (i.) to Subsection (5) of Section 15 of the Act or suspending medical benefit.

THE FOURTH SCHEDULE.

FORM OF NOTICE TO BE EXHIBITED BY PERSONS UNDERTAKING THE SUPPLY OF DRUGS OR APPLIANCES OR BOTH.

NATIONAL INSURANCE ACT.

(*Name of Person or Firm contracting.*)

Under contract with the Insurance Committee for the County [or County Borough] of .....

To dispense medicines.
To supply drugs.
To supply drugs (except scheduled poisons).
To supply appliances.

NOTES ON THE REGULATIONS.

A COMMUNICATION FROM THE MEDICAL MEMBERS OF THE ADVISORY COMMITTEE.

THE medical members of the Advisory Committee having accepted on behalf of their colleagues the responsibility of representing to the Commissioners the views of the profession with regard to medical benefit believe that a brief explanatory memorandum on the provisional Regulations now published would prove useful. The preparation of such a memorandum appears desirable, inasmuch as the Regulations are of considerable length and are necessarily couched in legal language. Such a document is never easily interpreted on a first perusal, and those who have been responsible for tendering advice during its preparation have had the opportunity of reading and discussing with its authors several earlier drafts.

It will be at once observed that in many instances the provisional Regulations appear to be framed in order to *allow* rather than enforce arrangements that are considered desirable. It has been explained in conference that this method of dealing with certain problems has been adopted in consequence of the experimental nature of many of these arrangements, which, were they to be *enforced* by the Regulations instead of *permitted* under them, would have proved difficult to alter, even when all parties had agreed that, after trial, some change was necessary.

The form and order of the Regulations are such as to assist the Local Insurance Committees to appreciate the successive steps that they will have to take, in concert with various other bodies and persons, in order to bring into force the medical benefit of the Act. Some of these steps will especially concern the Approved Societies, others the insured persons or the pharmacist, but the great majority will concern individual members or collective bodies of the profession.

PART II. (SECTIONS 3 TO 10).

Arrangements with Practitioners.

The opening sections of the Regulations, following upon the formal introductory Part I., deal with the arrangements the Insurance Committee will have to make, on the one hand, with the Approved Societies as to the finance of medical benefit; on the other, with the profession, as to the conditions of service of medical practitioners. In dealing with the conditions of service, the Insurance Committee is instructed to consult the Local Medical Committee. For the assistance of these two bodies in their consultation on this matter, the Committee is referred to a schedule printed at the end of the Regulations containing conditions of service for medical practitioners, and five alternative schemes embodying different methods of remuneration.

The schemes will no doubt be carefully examined by medical practitioners, and will be found not only to provide for a simple capitation system and a simple system of payment by fee for attendance, but for various combinations of these methods. Permission is also given in the Regulations, subject to the approval of the Commissioners, for further modification of these conditions, and for modification or combination of the various methods of remuneration.

Whatever conditions of service and methods of remuneration are decided upon must be reported to the Commissioners for approval, and when so approved, will remain in force during the period specified in the approval. In reporting to the Commissioners upon these points, the Committee must state the "income limit," if any, fixed for its district.

SECTIONS 10 to 12.

Setting up the Panel.

The next sections provide for the setting up of a panel of practitioners by giving notice of the terms and conditions upon which medical men are invited to undertake treatment, and allowing the period from two to three weeks for applications to be sent in. Lists of those accepting will be prepared, giving particulars of the days and hours at which the practitioners will attend at any surgery, dispensary, or other place for the purpose of treating insured persons. Arrangements are made for the inclusion in the list of a "firm" where one or more medical men in partnership so desire. The arrangements for an annual revision and additions to the list, in special circumstances, such as a newcomer to the district and sale of practice, are set out.

SECTIONS 13 TO 15.

The Income Limit.

Power is given to Committees to fix an income limit and to require all persons whose incomes exceed such limit to make their own arrangement for obtaining medical attendance, provision being made, however, for certain persons or classes of persons above the income limit being exempted from the necessity of making their own arrangements. Steps are to be taken to allow all interested parties being heard before a limit is established. When an income limit is established, various individuals and bodies, including the Local Medical Committee and any doctor on the panel, are given authority to challenge the right of an insured person to receive his medical benefit under arrangements made by the Committee, and if so challenged the onus of establishing his right, is put upon the insured person. Besides those insured persons who are required because of the amount of their income to make their own arrangements, others may, for special reasons, made on due application to the Committees, be allowed to do so. When an insured person is either required or allowed to make his own arrangements, the Committee shall make a contribution to the cost of his medical treatment in one of two ways. If he becomes the contract patient of some medical practitioner, the Committee shall pay the whole or part of the annual sum he contracts to pay, and if he becomes a private patient, paying a bill in the ordinary way, the Committee shall pay a proportionate part of the expense actually incurred by him. Powers are given to withhold or reduce payment when the treatment obtained, by an insured person making his own arrangements, is not such as will adequately protect the funds of his Approved Society.

SECTION 16.

Existing Medical Institutions.

If any Insurance Committee desires to recognise an existing medical system or institution which has applied to be recognised as means through which insured persons may obtain medical attendance, it must apply to the Commissioners for approval, stating the reasons for so doing, and if the Committee and Commissioners approve the institution, the institution may be recognised for a specified period. No such institution shall be approved unless the Committee is satisfied that the treatment given there is adequate, and that all insured persons, on giving due notice, are free to cease obtaining medical treatment thereat without incurring any loss or penalty. Such institutes must submit accounts and returns. The Insurance Committees may contribute towards the expenses of the treatment furnished by any Approved Institution to any insured persons who elects to receive treatment through it. This method of providing financial assistance is apparently designed to prevent the possibility of a profit being made by institutions out of medical benefit.

SECTIONS 17 TO 26.

Distribution of Patients amongst Practitioners.

Provision is made for giving public notice of the arrangements decided upon, of the place where lists of medical men on the panel can be seen, as to the amount of the income limit, and as to the right of insured persons to select a doctor on the panel or to obtain treatment in some other manner. The different methods of distributing the patients amongst practitioners on the panel when a capitation system, or a system of payment per attendance, is adopted are set out. On the capitation system, distribution will be made at the beginning of each year, and will be in accordance with the choice of the patient, subject to the consent of the doctor so far as this may be exercised. The Insurance Committee will provide, so far as practicable under arrangements made by the practitioners on the panel, for the distribution of those insured persons who do not choose a doctor, or are not accepted by a doctor of their choice. The distribution once made will normally remain in force for 12 months. Where payment for attendance is in force, the insured persons will become the patient of a practitioner on the panel upon the presentation by the patient, and formal acceptance by the doctor, of a voucher issued by the Committee. On such acceptance the insured person will normally become that doctor's patient, so far as medical benefit is concerned, until the end of the current year. Whichever system is in force, transference of a patient to some other practitioner on the panel willing to accept him is permitted if doctor and patient so desire. In various other contingencies the normal period of attachment of patient to doctor may be shortened, and a transfer effected by the Committee. Amongst the clauses dealing with this subject is an important provision for the wholesale transference, subject to their consent, of all the insured patients of a medical practitioner on the panel, should his name for any reason be withdrawn from the list or should he cease to practise within the area. By this arrangement an attempt is made to protect the goodwill of a practice amongst insured persons.

SECTIONS 28 TO 30.

Distribution of Payment Amongst Practitioners.

The remaining sections of Part II. deal with methods of calculating the remuneration of practitioners under various systems of payment. Taken in conjunction with Schedule I. these sections must be carefully scrutinised by the profession. From these sections it seems clear that where payment per attendance is in force a pooling arrangement is to be adopted, and medical bills will be paid, not necessarily at their face value, but on a *pro rata* scale so far as the available funds will allow. Provision is also made that where payment per attendance is in force, before final payments are made the accounts shall be submitted to a Committee appointed by the doctors on the panel, which Committee shall have power to reduce or disallow any item of the account. Where a capitation fee pure and simple is agreed upon as the basis of remuneration, it appears that this may not be a first charge on the fund, for in certain contingencies it is liable to reduction. Where a combined system is adopted the fees, whether capitation or per attendance fees, which are paid in priority, are to be paid in full, while the remaining fees are to be paid *pro rata* as far as the available funds will allow.

PART III. (SECTIONS 32 TO 43).

Part III. of the Regulations deals with the provision of drugs and medical appliances. Lists of drugs and appliances are to be prepared marked with the prices to be paid for them. In normal cases these will be supplied by such chemists as have agreed to do so, and whose names are included on a list prepared by the Committee. The Committee, however, may make arrangements for practitioners on the panel to supply drugs necessarily or ordinarily administered by a practitioner in person, and such as are required for immediate administration. Arrangement may also be made with practitioners to dispense their "own medicines" when the Committee is satisfied that insured persons will have difficulty, owing to distance or inadequate means of communication, in getting necessary drugs and appliances from a chemist.

The list of drugs and appliances will be revised annually, after consultation with the Local Medical Committee.

PART IV. (SECTIONS 44 AND 45.)

Insured Persons Temporarily in Another Area.

Provision is made for the treatment of persons temporarily resident away from their homes, either in the same or in another county. Special arrangements must in such case

be made with practitioners on the panel, and for this purpose it is contemplated that a separate list of practitioners willing to undertake this work will be set out.

SECTION 46.

Mileage.

Committees are required to make extra payment for mileage in specified conditions; no payment is to be made if a practitioner residing within three miles of the patient is available. The mileage is in all cases to be based upon the distance between the patient's house and the house of the nearest available practitioner.[1] The practitioner is to be paid a fixed quarterly or annual sum in respect of each patient on his list the situation of whose residence makes payment for mileage necessary.

SECTION 47.

Special provision is made for the medical attendance upon old and disabled members of Friendly Societies not qualified to become insured persons.

SECTIONS 48 TO 51.

Complaints.

Complaints are divided into two classes: (*a*) Complaints of insured persons with regard to practitioners, *vice versâ*, and (*b*) complaints of one practitioner on the panel against another practitioner on the panel involving questions of the efficiency of the insurance service.

Complaints in the former category are to be considered by a special subcommittee, consisting of three representatives of the medical practitioners appointed by the Local Medical Committee, and three persons appointed by the representatives of the insured persons, with a neutral chairman. The details of procedure of this Committee of Complaints is carefully laid down to ensure adequate and fair consideration, and suitable action in the case of misconduct being established. If a complaint is established against a doctor, the patient may be transferred to another practitioner, and if the Committee think the doctor's continuance on the panel is prejudicial, they may make representations to the Commissioners.

In the case of intra-professional complaints the consideration is to be carried out by the Local Medical Committee, who may take such action as they think fit. If they consider removal from the panel desirable, they shall so report to the Commissioners. Regulations prescribe the constitution and procedure of a special committee of inquiry to which must be referred any case in which the question of removal from the panel is submitted to the Commissioners. The committee consists of two medical practitioners and two other persons, one of whom shall be a barrister, and is to appoint one of its members to be chairman without a casting vote.

SECTIONS 52 TO 59,

Conclusion.

The remaining Sections relate to disciplinary matters with regard to chemists and to technical questions concerning the application of the Regulations generally to Scotland and Wales. With regard to Scotland, it is laid down that in sparsely populated districts the Insurance Committee shall, with the Commissioners' approval, adopt such method of remuneration of practitioners as may be deemed necessary.

The profession will note that in the Schedule the schemes of remuneration do not contain any figures. Just as a great many points of detail as to procedure are left to be settled in conference between the Local Insurance Committee and the practitioners concerned, so the question of actual remuneration is left to local bargaining. It is not for us to express any opinion as to whether this is a satisfactory position or likely to meet with the approval of the profession. We may perhaps, however, state that our experience on the Advisory Committee has led us to believe that, having regard to the great uncertainty with which the effect of this vast change in all our professional arrangements is enveloped, such a procedure is inevitable. Again, while unable to estimate how far these Provisional Regulations will prove amenable to the profession, we feel confident they will join with us in appreciating the manifest trouble that has been taken by the Commissioners in endeavouring to frame Regulations that are not incompatible with the ultimate realisation of the wishes of the profession so far as other conflicting interests allow.

It should be noted that the Model Rules for Insurance Committees prescribe the conduct of the insured in receipt of medical benefit, and are designed to prevent unnecessary demands upon the medical practitioner.

Signed on behalf of the Advisory Committee.

Oct. 2nd, 1912. CLIFFORD ALLBUTT.

[1] In case of special difficulties of access to the residence of the insured person the fixed "prescribed distance" (beyond which extra mileage is payable) shall be such lesser distance as the Committee may agree with the practitioner.

Medical News.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held recently the following candidates satisfied the examiners:—

FIRST M.B. EXAMINATION.

Part I., Inorganic Chemistry and Physics.—Alice M. A. Holt, Dorothy Potts, C. R. Sandiford, and D. M. Sutherland.
Physics.—R. L. Newell and Walter Stansfield.
Chemistry.—A. M. Cotes.
Part II., Elementary Biology.—A. M. Cotes, E. R. Gilmore, and C. R. Sandiford.

SECOND B.D.S. EXAMINATION.

Dental Metallurgy.—Aquila Whitehead.

DIPLOMA IN DENTISTRY.

First Examination.—Eunice W. Hughes, S. C. C. Jones, Frank Lyth, and J. V. Wilkinson.
Chemistry.—P. F. G. Phillips.
Second Examination.—Dental Metallurgy.—E. D. Batty, J. S. Corless, and Albert Farnworth.
Dental Mechanics.—E. D. Batty, Benjamin Brown, J. S. Corless, G. L. Elmitt, Albert Farnworth, P. J. Kieren, Harry Morton, and E. B. Warner.

FOREIGN UNIVERSITY INTELLIGENCE.—*Albany Medical College:* Dr. H. Bernstein has been appointed to the chair of Pathological Anatomy and Bacteriology in succession to Dr. Thomas Ordway, resigned.—*Berlin:* Dr. Eugen Rost, *privat-docent* of Pharmacology and member of the Prussian Medical Service Board, has been granted the title of Professor.—*Berne:* Dr. L. Schneider has been recognised as *privat-docent* of Medicine, and Dr. Getzov as *privat-docent* of Pathological Anatomy.—*Bonn:* Dr. H. Cramer has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Genoa:* Dr. G. Masini, Extraordinary Professor of Otology and Laryngology, has been promoted to an Ordinary Professorship.—*Göttingen:* Dr. Creite, *privat-docent* of Surgery, has been granted the title of Professor.—*Greifswald:* Dr. E. Walter has been recognised as *privat-docent* of Hygiene.—*Königsberg:* Dr. W. Clausen has been recognised as *privat-docent* of Ophthalmology, and Dr. W. Frey as *privat-docent* of Medicine.—*Marburg:* Dr. Hohmeier, oberarzt of the University Surgical Clinic, and Dr. Krusius, an ophthalmic surgeon, have been granted the title of Professor.—*Mobile (Medical College of Alabama):* Dr. A. E. Thayer, formerly Professor in the Texas University Medical Department, has been appointed to the Chair of Pathological Anatomy.—*Munich:* A new professorial chair has been established for Social Medicine and the Hygiene of Workers, to which Dr. Ignaz Kaup, lecturer on the Hygiene of Workers in the Berlin Technical Academy, and titular professor in the university, has been appointed. He, together with Dr. Kriegel, Dr. Schlossmann, and Dr. Grotjahn, edit the *Archiv für Sozial Medizin.* Dr. E. M. von Romberg, professor in Tübingen, has been appointed to the chair of Clinical Medicine.—*Naples:* Dr. C. Romano, extraordinary professor of orthopædic surgery, has been promoted to be Ordinary Professor.—*Philadelphia (Medico-Chirurgical College):* Dr. H. J. Smith has been appointed Professor of Dermatology.—*Tübingen:* Dr. J. W. Miller has been recognised as *privat-docent* of Pathological Anatomy.—*Zürich:* Dr. Hans W. Maier has been recognised as *privat-docent* of Psychiatry.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships have been awarded at the September examination:—University scholarships of 50 guineas each to C. N. Williams, University College, Cardiff, and C. Hope Carlton, B.A., St. John's College, Oxford. Open scholarship of £100: P. Hughes, St. Colomb's College. Palmer scholarship of 25 guineas: T. Morris Davies, Carmarthen Grammar School. The Epsom College scholarship has been awarded to C. L. Mason.

ST. BARTHOLOMEW'S HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships have been awarded. Entrance scholarship in arts, value £100, for one year: Geoffry Bourne, Highgate School. Jeaffreson exhibition in arts, value £50, for one year: C. M. Titterton, University College School. Senior entrance scholarships in science, value £75, for one year: C. W. B. Littlejohn, New College, Oxford, and C. R. A. Thacker, of Downing College, Cambridge. Junior entrance scholarship in science, value £150, for one year: P. Nield Cook. Shuter scholarship, value £50, to graduates in arts of Cambridge: K. B. Belwood, of Pembroke College.

GUY'S HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships have been awarded:—Senior science scholarship for University students: £50, Charles Putnam Symonds, New College, Oxford. Junior science scholarships: £120, Joseph Edouard Evariste de Robillard, preliminary science class, Guy's Hospital; £60, Harold John Bensted, Birkbeck College, and Joseph Christopher Campbell Howe, preliminary science class, Guy's Hospital (equal). Entrance scholarships in arts: £100, William Herbert Steavenson, Cheltenham College; £50, Felix Raoul Leblanc, Royal College, Mauritius; certificate, Louis Gustave Phillipe K'Vern.

THE BROMPTON HOSPITAL FOR CONSUMPTION.—A special post-graduate course in the diagnosis and treatment of pulmonary tuberculosis will be held at the hospital from Nov. 4th to Nov. 16th. The first week will be devoted to the nature of pulmonary tuberculosis and its recognition; the second week to the treatment of pulmonary tuberculosis and its complications. The course will open on Monday, Nov. 4th, at 1 P.M., when those attending will assemble in the lecture hall to hear the announcement of final arrangements by the Dean, Dr. Cecil Wall. After introductory clinical remarks by Dr. Theodore Williams, there will be pathological and clinical demonstrations by Dr. W. C. Bosanquet and Dr. Horton-Smith Hartley. At 4.30 P.M. Dr. T. D. Acland will lecture on the Problem of Consumption, and at 8.45 P.M. a conversazione will be held in the lecture hall and laboratories. During the remainder of the course the class will meet daily for demonstrations by members of the staff or for case-taking in the wards from 10.30 A.M. to 4 P.M. On Tuesday, Nov. 5th, the demonstrations will be given by Dr. A. C. Inman, Dr. Jex-Blake, Dr. Dundas Grant, and Dr. F. J. Wethered, and the lecture at 4.30 will be delivered by Sir R. Douglas Powell on the Rôle of the Cardiovascular System in Pulmonary Tuberculosis. On Wednesday, Nov. 6th, the demonstrations will be given by Dr. Cecil Wall, Dr. Stanley Melville, and Dr. Batty Shaw, and the lecture on the Symptomatology of Pulmonary Tuberculosis by Sir J. Kingston Fowler. On Thursday, Nov 7th, the demonstrations will be given by Dr. Inman, Dr. R. A. Young, Dr. C. Miller, and Dr. S. H. Habershon, and the lecture on Acute Tuberculous Pneumonia by Sir William Osler. On Friday, Nov. 8th, the demonstrations will be given by Dr. Inman, Dr. W. J. Fenton, Dr. Batty Shaw, and Dr. Habershon, and the lecture on Pleurisy in Relation to Pulmonary Tuberculosis by Sir Clifford Allbutt. On Saturday, Nov. 9th, Dr. Miller, Dr. Cecil Wall, and Dr. W. H. G. Mackenzie will give clinical demonstrations. On Monday, Nov. 11th, the demonstrations will be given by Dr. Young, Mr. Stanley Boyd, and Dr. Hartley, and the lecture on the Effect of Environment in Pulmonary Tuberculosis by Dr. Percy Kidd. On Tuesday, Nov. 12th, the demonstrations will be given by Dr. Inman, Dr. Jex-Blake, Dr. Dundas Grant, and Dr. Wethered, and the lecture on the Elements of Prognosis in Pulmonary Tuberculosis by Dr. Mitchell Bruce. On Wednesday, Nov. 13th, Dr. Inman, Dr. Miller, Dr. S. Melville, and Dr. Batty Shaw will demonstrate and Dr. Dundas Grant will lecture on the Treatment of Laryngeal Tuberculosis. On Thursday, Nov. 14th, demonstrations will be given by Dr. Inman, Dr. Young, Dr. Miller, and Dr. Habershon, and Dr. Marcus Paterson will lecture on the Principles of Treatment by Graduated Labour. On Friday, Nov. 15th, after a morning demonstration, the class will travel *viâ* Waterloo to Frimley, where Dr. Wethered will demonstrate. Saturday, Nov. 16th, will be given up to an explanation of the hygienic methods of the hospital by Dr. A. Bernstein and clinical demonstrations by Dr. Wall, Dr. Miller, and Dr. Mackenzie. The fee for the course is 5 guineas, with a reduction of 1 guinea to those attending the clinical practice of the hospital. Inquiries should be addressed to the Dean.

Messrs. Newton, Chambers and Co., Limited, of Thorncliffe, Sheffield, have been appointed manufacturers of disinfectants to His Majesty the King.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—A council meeting of this association was held at 34, Copthall-avenue, E.C., on Friday, Sept. 27th. Mr. D. B. Balding, F.R.C.S., J.P., was in the chair, and there was a good attendance. The honorary secretary reported that a letter had been sent to the Local Government Board in reference to the recent election of a medical officer to the Winkleigh district by the Torrington guardians, drawing the attention of the Board to the following points:—1. On several occasions this election was unduly postponed by the guardians, although a properly qualified candidate was before them, against whom no valid objections were put forward. 2. That such treatment of the candidate tended to prevent suitable candidates from applying for appointments. 3. That the subsequent election of another to the post proved that the postponement was made for motives other than a desire to promote the welfare of the sick poor. The letter was sent by the Local Government Board to the Torrington guardians for their comments, which body at a subsequent meeting made no comments, and was adversely criticised in the local press by some of the officials of the Winkleigh clubs in respect to the under-payment of their medical officer; but it appeared, said the honorary secretary of the Poor-law Medical Officers' Association, that since the death of their last medical officer, who had been paid from £50 to £60 per annum, it had not been possible to obtain another, a deputy being employed at a rate of £3 10*s.* a week. The Local Government Board replied to the association that on consideration no sufficient reason had been found for withholding sanction to the appointment as made, but the council of the association, said the secretary's report, were of opinion that there had been grave administrative abuse in the election, and they trusted that their representations would induce the Local Government Board to look more keenly into such matters. The recent action of the Dartford guardians, who were endeavouring to include fees for public vaccination in the salary of the district medical officer, had also been under the consideration of the council, and communication thereon had been made to the Local Government Board.—The council then considered a letter from the Departmental Committee appointed by the President of the Local Government Board to report upon the revision of the Poor-law Orders, and after debate it was decided to leave the drafting of the reply to Dr. C. Thackray Parsons and Dr. F. S. Toogood.—A letter from a workhouse medical officer, asking if the guardians could legally include in his salary fees for certifying lunatics and for giving medical attendance to officers resident in the workhouse, was then keenly discussed by the council, it being contended that the inclusion of lunacy fees was opposed to the provisions of the Lunacy Acts; and with regard to attendance on resident officers at the workhouse, it amounted to providing at the expense of the rates medical attendance for presumably well-paid officials. The council was unanimously of opinion that both these practices should be condemned. The whole meeting was a very instructive one, points of great interest to the medical profession as a whole being debated in a practical manner.

ST. BARTHOLOMEW'S HOSPITAL.—The annual old students' dinner was held as usual in the beautiful Great Hall of the hospital on Oct. 1st. Dr. H. Lewis Jones, who is retiring after 20 years' successful charge of the electrical department, was in the chair. The large company included Sir James Porter (Director-General of the Navy Medical Department), Dr. W. P. Herringham (Vice-Chancellor of the University of London), Professor Howard Marsh (Master of Downing), Dr. A. E. Shipley (Master of Christ's), Sir Francis Champneys (President of the Royal Society of Medicine), Sir William Church, Sir Dyce Duckworth, Sir T. Lauder Brunton, Surgeon-General Sir A. F. Bradshaw, and Sir Ronald Ross. The chairman, in proposing the toast of the evening, "The Hospital and Medical School," spoke with regret of the death of Sir Henry Butlin, and of the resignations from the active staff of Dr. Norman Moore,

Mr. C. B. Lockwood, Mr. W. B. Paterson, Dr. Christopher Addison, and Dr. E. Klein. In congratulating Dr. H. K. Anderson on his election to the Mastership of Gonville and Caius College, he pointed out that three heads of colleges in Cambridge are now St. Bartholomew's men. Several changes in the working of the hospital and school have been decided upon: the orthopædic department is to be placed in charge of a special surgeon, the X ray work is to have a special department distinct from the electrical department, and the courses of set lectures in medicine and surgery are to be replaced by lectures by any members of the visiting staff. Progress is being made by the medical school in the movement towards the obtaining of a charter of incorporation. When this has been obtained the medical school will possess a legal constitution as a corporate body. Endowments may be hoped for, and these can only be held by corporate bodies. The toast was responded to by Mr. Acton Davis, the acting treasurer of the hospital, who explained that he had undertaken the responsibilities of administration whilst Lord Sandhurst held the post of Lord Chamberlain. He said that the hospital's financial trouble had only been tided over for the moment, and great and continued efforts were needed still. The Insurance Act had increased hospital expenditure and prejudiced the collection of subscriptions. Mr. W. Bruce Clarke, senior surgeon, proposed the health of the visitors, and welcomed each of the guests in warm terms. Sir William Osler, in reply, spoke of the inspiration of the Great Hall and of the portraits of the great men around him. He said that they as a profession had to thank Mr. Lloyd George for uniting them together. Whatever else might come out of the Insurance Act, one thing was certain—never again would the profession be sweated as their professional brethren had been sweated in working for the poor of the country. But there were rocks ahead: their solidarity might lead them straight on to the rock of trades unionism. He, however, doubted that, for the man who went into trades unionism would not be looked upon as a respectable member of the profession. With regard to the voluntary system, the nettle must be grasped and the hospitals must accept the principle of taking payment from patients. Professor Straub, of Amsterdam, who also replied for the visitors, spoke eloquently of the internationality of medical science and of the very personal—and therefore national—character of the art of medicine. Holland, which observed all nations and followed none, was impressed by the fact that British medical men did not over-write, and admired the short, sure, and simple style of English medical literature. The health of the chairman was gracefully proposed by Sir Anthony Bowlby and was received with enthusiasm. Dr. Lewis Jones, in a brief reply, expressed the thanks of all present to Mr. H. J. Waring, the honorary secretary of the dinner, for the delightful evening which he had arranged.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication

BENTHALL, ALBERT, M.R.C.S., F.R.C.P. Edin., has been appointed Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 37, to be attached more particularly to Brentford County Court.

GREENEP, ANNIE C., M.B., Ch.B. Edin., has been appointed Resident Medical Officer to the Blackburn Union.

MACNAMARA, J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Bellananagh District of the county of Cavan.

MAPLESTON, HENRY BANBURY, M.D., C.M. Edin., D.P.H. Lond., has been appointed Medical Officer of Health by the Newton Abbot (Devon) Rural District Council.

MURPHY, CHRISTOPHER FRANCIS, L.R.C.P., L.R.C.S., L.M. Irel., has been appointed Medical Officer for the North Chardstock District by the Axminster (Devon) Board of Guardians.

SEALY, ARTHUR LESLIE MARMADUKE, M.B., C.M. Aberd., has been appointed Medical Officer for the Ipplepen District by the Newton Abbot (Devon) Board of Guardians.

VESSELOVSKY, VICTOR C., M.R.C.S., L.R.C.P., has been appointed House Surgeon at the Hampstead General and North-West London Hospital.

WOOLF, A. B. M., M.B. Cantab., F.R.C.S. Eng., has been appointed Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 58, to be attached more particularly to Tavistock and Okehampton County Courts.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £30 per annum, with board and residence.

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Assistant Surgeon. Also Assistant Physician.

BIRMINGHAM CITY.—Lady Assistant Medical Officer for Infant Consultation work. Salary £250 per annum.

BIRMINGHAM EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £260 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House Surgeons for six months. Salary £75 per annum, with board, residence, and laundry. Also Surgeon.

BOLTON INFIRMARY AND DISPENSARY.—Senior Assistant House Surgeon. Salary £100 per annum, with board, apartments, and attendance. Also Third House Surgeon. Salary £90 per annum, with apartments, board, and attendance.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100 per annum.

BRADFORD, ROYAL EYE AND EAR HOSPITAL.—House Surgeon. Salary £200 per annum.

BRISTOL ROYAL INFIRMARY.—Two House Surgeons. Salary £100 per annum each. Also One House Physician. Salary £100 per annum. Also One Throat, Nose, and Ear House Surgeon. Salary £75 per annum. Board, apartments, and laundry provided.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch, near Cardiff.—Second Assistant Medical Officer, unmarried. Salary £200 per annum.

CHELTENHAM GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, lodging, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon. Salary £90 per annum, with rooms, board, washing, and attendance.

DARENTH INDUSTRIAL COLONY.—Third Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

DOUGLAS, ISLE OF MAN LUNATIC ASYLUM AND THE HOME FOR THE POOR.—Assistant Medical Officer. Salary £170 per annum, with board, quarters, and washing.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, attendance, and washing. Also Assistant House Surgeon for six months. Salary £100 per annum, with residence, board, and washing.

DUNDEE ROYAL INFIRMARY.—Non-resident Outdoor Obstetric Assistant for three or six months. Salary £70 per annum.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon. Salary at rate of £75 per annum, with board, residence, and laundry. Also Second Medical Officer for six months. Salary at rate of £40 per annum, with luncheon and tea.

ECCLESALL BIERLOW UNION WORKHOUSE.—Resident Assistant Medical Officer. Salary £200 per annum, with board, washing, and apartments.

ESSEX EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

FAREHAM, HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

GLASGOW, GARTLOCH MENTAL HOSPITAL.—Junior Resident Assistant Medical Officer. Salary £150 per annum.

GLOUCESTERSHIRE COUNTY COUNCIL AND GLOUCESTER CORPORATION JOINT COMMITTEE.—Tuberculosis Medical Officer. Salary £500 per annum.

GORDON HOSPITAL FOR RECTAL DISEASES, Vauxhall Bridge-road, S.W.—House Surgeon. Salary £50 per annum.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £75 per annum, with board, residence, and laundry.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Casualty Officer for new Out-patients' Department, Camden Town, N.W. Salary £140 per annum, with board, residence, and laundry. Also Assistant Casualty Officer for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £30, with board and residence.

HULL ROYAL INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £60 per annum, with board and lodging.

KING'S COLLEGE HOSPITAL, London, W.C.—Senior Surgical Registrar and Tutor.

LARBERT, STIRLING DISTRICT ASYLUM.—Junior Assistant Medical Officer. Salary £140 per annum, with board, lodging, and laundry.

LEICESTER ROYAL INFIRMARY.—Second House Surgeon, Assistant House Surgeon, and Assistant House Physician, all for six months. Salary of former £100 and of two latter at rate of £80 per annum, with board, apartments, and washing.

LEWES, VICTORIA HOSPITAL AND DISPENSARY.—Resident Medical Officer. Salary £120 per annum, with apartments, board, washing, attendance, &c.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board and residence.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MARGATE, ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary at rate of £100 per annum for first six months and £120 for last six months, with board, residence, and laundry.

MERSTHAM, SURREY COUNTY ASYLUM, Netherne.—Third Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon, all for six months. House Physician and House Surgeon salary at rate of £60 per annum, with board and washing. Assistant House Physician and Assistant House Surgeon salary at rate of £40 per annum, with board and washing.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood.—House Physician at Northwood. Salary £75 per annum, with board, residence, and washing.

NEWCASTLE-UPON-TYNE, ROYAL VICTORIA INFIRMARY.—Resident Medical Officer. Salary £200 per annum, with board and residence.

NORDRACH-ON-DEE, Banchory.—Clinical Pathologist. Salary at rate of £100 per annum, with board, lodging, and washing.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary in each case at rate of £52 10s. per annum, with board and residence. Also Honorary Surgeon to Out-patients.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Senior House Physician. Salary £75 per annum. Senior House Surgeon. Salary £75 per annum. Junior House Physician. Salary £50 per annum. Junior House Surgeon. Salary £50 per annum. All for six months, with residence, board, and laundry.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—House Physician and Second House Surgeon for six months. Salary in each case £80 per annum, with apartments, board, and washing.

RIVIERA, QUEEN VICTORIA MEMORIAL HOSPITAL, Nice.—Resident Medical Officer. Salary 100 guineas, with board and attendance.

SHREWSBURY, COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £170 per annum, with board, apartments, laundry, attendance, &c.

TOTTENHAM URBAN DISTRICT COUNCIL.—Medical Officer of Health and School Medical Officer. Salary £600 per annum.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

WARWICK COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £175 per annum, with board, apartments, and laundry.

WESTERN OPHTHALMIC HOSPITAL, Marylebone-road, W.—Clinical Assistants.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Surgeon.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, washing, and attendance.

YORK, HOSPITAL FOR THE INSANE, Bootham Park.—Resident Medical Superintendent.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Acts at Swanscombe, in the county of Kent.

Births, Marriages, and Deaths.

BIRTHS.

RAIT.—On Sept. 30th, at "Woodstock," Lyndhurst-gardens, Hampstead, N.W., the wife of Major J. W. F. Rait, I.M.S., of a daughter.

VOSPER.—On Sept. 25th, at Regent's Park-road, N.W., the wife of Percy Vosper, M.R.C.S., L.R.C.P., of a daughter.

WACE.—On Sept. 27th, at Walcote, Winchester, the wife of Cyril Wace, F.R.C.S., of a son.

WILSON.—On Sept. 27th, at College-crescent, Fitzjohn's-avenue, N.W., the wife of J. Clark Wilson, M.D., M.R.C.P., of a daughter.

MARRIAGES.

GREEN—COWAN.—On Oct. 1st, at St. Peter's, Brockley, by the Rev. C. H. Grundy, Vicar, Charles David Green, M.D. Lond., F.R.C.S. Eng., of Romford, to Gertrude, youngest daughter of Demetrius and Louisa Cowan, of Wickham-road, Brockley.

LEA-WILSON—LUTMAN.—On Sept. 30th, at the Church of St. John Baptist, Pinner, by the father of the bridegroom, Basil H. C. Lea-Wilson, M.R.C.S., L.R.C.P., to Muriel, daughter of Mrs. Lutman, of Pinner Wood House, Pinner.

WOODWARK—ROBINSON.—On Sept. 26th, at St. Peter's, Cranley-gardens, Arthur Stanley Woodwark, M.B., M.R.C.P., to Hilda Mary, youngest daughter of R. A. Robinson, D.L., J.P., and Mrs. Robinson, Putney.

DEATHS.

ELLIS.—On Sept. 30th, at Leavesden, Weybridge, Inspector-General Sir Herbert Mackay Ellis, R.N., K.C.B., F.R.C.S., LL.D., J.P., Carnarvonshire, Honorary Physician to King Edward VII. and King George, Director-General of Navy, 1904–08, aged 61 years.

PARSONS.—On Oct. 2nd, Louisa Anne, wife of H. Franklin Parsons, M.D., of Croydon, aged 66 years.

WOAKES.—On Sept. 30th, at Belvoir, Fareham, Edward Woakes, M.D., late of Harley-street, aged 75 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE ETHICS OF SPAS.

ONE turns from the perusal of a modern pamphlet, such as Dr. Gustave Monod's "Treatment of Gastro-hepatic Dyspepsia at Vichy, Carlsbad, and Cheltenham," which is one of the latest scientific accounts of well-known spas, to that old notorious work, "The New Bath Guide," and at once one is forced to the conclusion that the genius of pump and spring has changed immeasurably since the days of our ancestors. The old genius might have been personified as a hussy, a ribald, painted, gaming baggage. She dealt in dice, in dubious flirtations, and in therapeutics closely akin to quackery. Her modern representative is continent, methodical, and medical. Cures in the eighteenth century, if cures they were, were effected by the frantic and rackety change of regimen which for a quiet man a visit to "the bath" too often involved. A modern cure, on the other hand, depends for its efficacy on a change from a life presumably luxurious and over-excited to one of early rising, regulated diet, and a sober and virtuous course of existence.

There were medical men in numbers at the ancient spas certainly, but they were often as much persons of frivolity and fashion as their patients. Thus Anstey, author of the "New Bath Guide" (edit. 6, 1768), in describing a "consultation," makes all the physicians talk politics:—

> "Good doctor, I'm yours—'tis a fine day for walking—
> Sad news in the papers—G—d knows who's to blame—
> The colonies seem to be all in a flame—
> This Stamp Act no doubt might be good for the Crown,
> But I fear 'tis a pill that will never go down.
> What can Portugal mean?—Is she going to stir up
> Convulsions and heats in the bowels of Europe?
> 'Twill be fatal if England relapses again,"

And so forth. The patient protests:—

> "Ye've a great deal of practice as far as I find,
> But since y'ere come hither, do pray be so kind
> To write me down something that's good for the wind."

And after more politics they declare:—

> "This case, which at first was a looseness,
> Is become a Tenesmus, and all we can do
> Is to give him a gentle cathartic or two;
> First get off the phlegm that adheres to the plicæ,
> Then throw in a medicine that's pretty and spicey;—
> A peppermint draught,—or a—Come, let's begone,
> We've another bad case to consider at one.
> * * * * *
> So thus they brush'd off, each his cane at his nose."

The drugs now sent in were thrown out of window, and the patient, with the ladies of his party, proceeded to feast on a "dory" to the tunes of a piper hired for the occasion. Their guests were a gallant captain and a convivial methodist parson, who forced Mr. Simkin Barnard to throw regimen to the winds.

The swelled stomach, of which he chiefly complained, is paralleled by Dr. Monod's delightfully dry reference to simple congestion of the liver, a condition, he has observed, "commoner among English patients than among any other." He writes, of course, from the point of view of a Frenchman, M.D. of Paris, though he indites excellent English and has recently obtained the qualification of the two London Colleges.

Spas in many parts of England and France first became fashionable under the Romans, though they may have been known to the ancient Celts in both countries. An element of mystery and magic was from the first connected with them, and seems, here and there, to haunt them still. Dr. Monod puts the matter well when he refers to "that impalpable quantity (the *nescio quid divinum* of hydrologists) which gives to natural mineral waters their life and their unique merit." But, as becomes a scientific man, he continues: "To offer a more prosaic conjecture, these qualities may be due to minimal quantities of the other salts in solution, to continuous synthesis, as described by Gautier, to radio-activity, or to some kindred property to be discovered by the Curies of the future."

THE TREATMENT OF RECURRENT HEADACHE.

To the Editor of THE LANCET.

SIR,—I should be glad if any of your readers could make useful suggestions for the treatment of a lady suffering from severe recurrent headaches, or give examples of parallel cases.

The lady, who has done a great deal of close literary work, began to suffer about 13 years ago with what were supposed to be attacks of influenza. That is, as I understand, she had severe headaches, some fever, and resulting debility. When she came under my care five years

ago she was having very severe headaches, associated with menstrual conditions, and lasting from five to eight days. They were so severe that for the whole of the time she took almost no food and could not bear to raise her head from her pillow. The only treatment which had been effective was the hypodermic use of morphia, and up to the present nothing better has been found than a combination of morphia and hyoscine given subcutaneously twice a day for five or more days.

The headaches begin frontally, but soon become an almost unbearable pressure on the top of the head, and she dislikes having her head touched. They are not associated with the eye phenomena which accompany migraine, and the use of glasses for her myopia and astigmatism has not apparently had any relieving effect. After some months of hesitation the uterus, which contained a large fibroid, and annexa were removed, but no change in the character of the headaches followed, though the monthly regularity was destroyed, and she has both gone several months without a headache and had series of headaches with but little interval. There is no paralysis or localising symptoms pointing to brain trouble, the teeth have been carefully attended to, and though there is some bridge work in her mouth, the headaches began before any bridge work was undertaken. She has had one attack of severe stomatitis, and has had some pleurisy and prolonged neuritic pains in the right arm. She has suffered both from chronic constipation and from a tendency to diarrhœa, and has of late rarely been free from some abdominal pain which is mostly close to the navel on its left side, and which does not seem to be directly affected by the nature of the food. She feels sick during the headaches, and usually vomits after some of the injections. Several diets have been tried, but there has been no improvement, and in the absence of certainty about the cause it is possible that the drugs and treatment tried may have been too rapidly changed. The rise of temperature during the headache is usually to 99·5° F., or occasionally to as high as 101°. Tuberculin has been given, but six doses did not seem to produce any beneficial effect.

The type of headache is undoubtedly rare, though it does not seem to be unknown to specialists, and perhaps some practitioner's success in a similar case might induce him to give me the benefit of his experience.

I am, Sir, yours faithfully,

Sept. 22nd, 1912. CANTAB.

SMALL-POX AND LEPROSY IN BASUTOLAND.

THE British Resident Commissioner in Basutoland, in his report for the year ending March 31st, 1912, states that the census taken in 1911 shows the total population of the territory to be 404,507, including 1396 Europeans or whites. Small-pox broke out in September, 1911, in the Mohale's Hoek district, but the outbreak was slight and soon stamped out. In January and February, 1912, however, further outbreaks of the disease were reported in the Mafeteng and Mohale's Hoek districts, and at the date of this report (July, 1912) there were 31 cases in the former and 309 cases in the latter district. Most of the cases were of a mild type, and the rapid spread of the disease was due to the difficulties which were experienced in maintaining a strict quarantine over villages where cases were reported and to the indifference to vaccination which at one time was manifested among certain sections of the people in the Mohale's Hoek district. The difficulty of maintaining quarantine was met by invoking the aid of the paramount chief, and the indifference to vaccination was overcome by placing in quarantine all villages inhabited by persons who refused vaccination, as well as those villages that contained actual cases of small-pox. This temporary refusal of some of the people to submit to vaccination was no doubt largely due to a feeling of security which a prolonged absence of any considerable outbreak of the disease in the territory had engendered, and when measures were taken, as stated, the difficulty at once disappeared, and some 41,703 people were vaccinated in the Mohale's Hoek district, which is thought to be now fairly well protected. The total number of people vaccinated and revaccinated in the territory during the period under review was 182,820.

The number of in-patients treated at the Government hospitals and dispensaries during the year was 1674 and that of out-patients 36,264. A new dispensary is being built at Qacha's Nek. Some progress has been made in connexion with the establishment of a leper settlement near Maseru. A suitable site has been selected, and authority for the necessary expenditure will shortly be applied for. It is only natural that an undertaking of such magnitude takes a considerable time to complete, and this will be more apparent when it is realised that it is intended to provide accommodation for approximately 700 lepers. It is hoped, however, that a year or 18 months will see the settlement fairly well established.

THE MAYOR OF HOLBORN'S BABY SHOW.

PARTICULARS have reached us of the successful baby show which was held this week at the Holborn borough council offices under the auspices of the mayor and the medical officer of health. On Wednesday afternoon, so we learn, 60 of the best babies in Holborn, chosen from 250 candidates, came up for competition. The judges were two medical women, who were strictly charged to show no favour to any baby on account of mere prettiness, the special points to be taken into consideration being age, size, weight, general fitness, and cleanliness. It was laid down as a condition of entry that all competitors should be suitably attired in long-sleeved gowns. Every baby who reached the standard set by the medical officer of health received a prize of baby clothes, presented in person by the mayoress, and even those who failed had a good view of the mayor in his chain and robes. Signed certificates were also provided for the prize-winners, and the mothers were given tea. In former years we have written strongly against the holding of baby shows at which bulk and weight were the sole standard of merit, and we are glad to see that the mischievous "fat baby competitions" which we condemned are now a thing of the past. At the Holborn baby show neither corpulence nor facial beauty was allowed to sway the judges' verdict, and the prizes were awarded for general physique and fitness, and for the other signs of maternal care and efficiency. We are also pleased to note that 50 out of the 60 selected candidates were breast-fed. Nine years ago we expressed the opinion that properly conducted baby shows might be made valuable instruments for educating the public in the best means of rearing babies and of securing their normal physical development. It is now possible to say that well-managed baby shows have a definite place in the campaign against infant mortality.

FORCIBLE FEEDING.

To the Editor of THE LANCET.

SIR,—I must confess I consider Dr. Mercier's parody of the forcible feeding report distinctly humorous. Will he not now give us another amusing skit—say, on the alleged pains of childbirth? It is not an unkind subject for jest, as we have no real reason to suppose the women suffer. True, they say so, but that is probably due to a desire on the part of the hysterical sex to work on the feelings of the medical profession, no member of whom—until recently—could check their statements by having passed through a similar experience. Moreover, at such a time many women appear to lose mental balance, so, again, why should we believe their report? True, the appearance of the women sometimes gives credibility to their tale, but that, too, may just be due to severe muscular exertion. On the face of it, the process is a natural one, and therefore most unlikely to cause suffering; and, besides, one does meet a mother occasionally honest enough to say very little pain is involved.

I must also take the opportunity of offering Dr. Mercier my thanks for having afforded at least one explanation of the extraordinary rapidity with which medical women have been received into public favour. Curious as it may seem to the ordinary well-balanced, thick-skinned person, there are people who would hesitate to place themselves medically in the hands of a suspect sex, a distinguished member of whom can be allowed by other members openly to make merry over the sufferings of patients and to enhance his reputation for a pretty wit at their expense.

I am, Sir, yours faithfully,

Hampstead, N.W., Sept. 28th, 1912. H. D. HANSON.

ICEBERG LOCALISATION.

Dr. Myer Coplans, whose experiments on iceberg localisation, carried out with the coöperation of the Canadian and United States Governments on the *Royal Edward*, have proved successful, is the bacteriologist to the city of Leeds, and is demonstrator of pathology in the University. The apparatus used by Dr. Coplans is designed to detect variations in the electrical conductivity of sea water caused by the presence of icebergs at a distance. The method, we learn, arose out of some bacteriological investigations in which Dr. Coplans was noting the effect of passing electrical currents on serum reactions.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced for 1912:—

May to October (London, Earl's Court).—Shakespeare's England.
Oct. 3rd–8th (Prague).—Sixth International Congress of Radiology and Medical Electrology.
,, 8th–22nd (Rome).—International Congress on the History of Art.
,, 9th–12th (New York).—Electrical Exposition and Automobile Show.
,, 10th–12th (Paris).—Sixteenth Session of the French Association of Urology.
,, 10th–13th (Meran).—Seventh Austrian Congress of Balneologists.
,, 13th–16th (Paris).—Thirteenth French Congress of Medicine.
,, 17th–23rd (Paris).—First International Congress of Comparative Pathology.
,, 24th–27th (Rome).—Fourth International Congress of Physical Education.
,, 29th–Nov. 2nd (London, Royal Horticultural Hall).—Twenty-third Universal Cookery and Food Exhibition.

In 1913:—
(Easter week) (Berlin).—Fourth International Congress for Physiotherapy.
April 26th (Ghent) (opens).—International Exhibition.

Aug. 8th-12th.—(London).—Seventeenth International Congress of Medicine.
Sept. 2nd-6th (Groningen).—International Physiological Congress.
„ 22nd-28th (Milan).—Fourteenth International Anti-alcoholic Congress
September (Birmingham).—British Association.
(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)
(London).—International Historical Congress.
(Chicago).—Congress of the International Association of Refrigeration.
(Washington).—Congress of American Physicians and Surgeons.
(Paris).—Congress of Physical Education.
(Paris).—Congress of the Royal Institute of Public Health.
(Buffalo).—Fourth International Congress of School Hygiene.

In 1914:—
(Vienna).—Third International Congress for Professional Diseases.
(Auckland, N.Z.).—Australasian Medical Congress.
(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.
(Washington, D.C.).—International Congress of Americanists.
(London).—International Dental Congress.
(Paris).—Fourth International Medical Congress on Industrial Accidents.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—James Berry, J. Murray): at 5.30 P.M.

Papers:
Mr. Albert J. Walton: Injury of the Semilunar Cartilages.
Mr. Albert M. Martin (Newcastle): A Personal Experience of 449 Cases of Injuries to the Semilunar Cartilages.
Mr. Robert Jones (Liverpool) and Mr. McAdam Eccles will take part in the debate.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—W. W. H. Tate, T. W. Eden): at 8 P.M.

Cases and Specimens:
Dr. Maxwell: (1) Case of Eclampsia treated by Cæsarean Section; (2) Hæmatocolpos, with Remarks on the Structure of the Vaginal Wall.
Dr. Henry Briggs (Liverpool): (1) Case of Hydatid Mole; (2) Post-operative Adenomatous Polyp in Vaginal Cicatrix 10 months after complete Extirpation of Uterus and Appendages.

Paper:
Dr. Thomas Wilson (Birmingham): Gelatinous Glandular Cysts and the so-called Pseudomyxoma of the Peritoneum.

FRIDAY.

SPECIAL GENERAL MEETING OF FELLOWS at 4.45 P.M.

(1) To Ballot for the following Candidates for Fellowship: Rachel Nathaniel Cohen, M.B., F.R.C.S.I.; William Edwin Haigh, F.R.C.S.; Gerald Herbert Johnston, L.R.C.P., L.R.C.S.; Stephen George Longworth, L.R.C.P.; William Love, F.R.C.S.I.; Robert Barclay Ness, M.B., C.M.; Raymond Broadley Etherington Smith, M.B., B.C., F.R.C.S.; James Greig Soutar, M.B., C.M.Ed.; Frank Pearce Sturm, M.Ch., M.B.; Margaret Grace Thackrah, M.B., B.S.; Richard Thorne Thorne, M.D., B.S.
(2) To consider a Resolution, proposed by the Council, with regard to the naming of rooms in the new House.

CLINICAL SECTION (Hon. Secretaries—Charles H. Fagge, W. Essex Wynter): at 8.30 P.M.

Cases:
Dr. A. M. Gossage: Coarctation of the Aorta.
Dr. H. Morriston Davies: Arterio-venous Anastomosis for Gangrene.
Dr. W. P. Herringham: Unusual Rashes in Two Brothers.
Dr. F. Parkes Weber: (1) Multiple Calcification in Subcutaneous Tissue; (2) Giant Urticaria of Five Years' Duration.

SOCIETY FOR THE STUDY OF INEBRIETY, Rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—3.30 P.M., Council Meeting. 4 P.M., Discussion on Alcoholism and Tuberculosis (opened by Dr. H. Rhodes).

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

WEDNESDAY.—5 P.M., Fleet-Surgeon Bassett-Smith, C.B., R.N.: Presidential Address.—Captain Sylvester-Bradley, R.A.M.C.: Disposal of the Sick from a Territorial Force.

HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.

WEDNESDAY.—8.30 P.M., Council Meeting. 9 P.M., Dr. F. Taylor: Sleepiness

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Sir J. Rose Bradford: Science and the Practice of Medicine. (Opening Address.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M., Lecture:—Dr. T. Hyslop: Cerebral Congestion.
TUESDAY.—4 P.M., Dr. P. Stewart: Clinique (Medical). 5.15 P.M., Lecture:—Dr. M. Leslie: Peri-bronchial Tuberculosis.
WEDNESDAY.—4 P.M., Mr. R. P. Rowlands: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. O. Grünbaum: The Treatment of Hæmoptysis.
THURSDAY.—4 P.M., Dr. F. J. Poynton: Clinique (Medical) 5.15 P.M., Lecture:—Sir George H. Savage: Mental Defectives and Legislation.
FRIDAY.—4 P.M., Mr. R. E. Bickerton: Clinique (Eye.)

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. Bishop Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.
THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. E. Lake: Ear and Throat.
TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir M. Morris: Skin Clinique (alternate Tuesdays).
WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.
THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. 3.15 P.M., Dr. R. Wells: Medicine.
FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford; Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.
SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Dr. W. Steuart: Radiography. 11 A.M., Dr. A. Davies: Pathological Demonstration.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

Special Post-Graduate Course in the Disease of Children (illustrated by cases, skiagrams, specimens, and operations):—
MONDAY.—9 A.M. to 10 A.M., Mr. Addison: Acute and Chronic Inflammatory Diseases of Bone (Lecture Room). 10 A.M. to 11 A.M., Dr. R. Hutchison: Rickets (Lecture Room). 3 P.M. to 4.30 P.M., Dr. Nabarro: The Value of the Examination of the Blood (Pathological Laboratory and Lecture Room). 5 P.M. to 6 P.M., Dr. H. Thursfield: The Diagnosis of Pulmonary Tuberculosis in Children of School Age (concluded) (Lecture Room).
TUESDAY.—9 A.M. to 10 A.M., Dr. G. F. Still: The Significance of Coughs (Lecture Room). 10 A.M. to 11.30 A.M., Mr. A. Lane: The Operative Treatment of Fractures (Operation Theatre). 4 P.M. to 5 P.M., Dr. F. E. Batten: Diagnosis of Nervous Diseases in Children, with Special Reference to Poliomyelitis, Meningitis, and Cerebellar Tumour (concluded) (Lecture Room).
WEDNESDAY.—9 A.M. to 10 A.M., Mr. T. Gray: Acute Peritoneal Infections (Lecture Room). 11.30 A.M. to 12.30 P.M., Mr. Fairbank: Spinal Curvature (Lecture Room). 2 P.M. to 4 P.M., Dr. A. E. Garrod: Demonstration of Selected Cases (Alexandra Ward). 5 P.M. to 6 P.M., Dr. F. J. Poynton: Rheumatism in Childhood (Lecture Room).
THURSDAY.—9 A.M. to 10.30 A.M., Mr. Addison: Appendicitis (Lecture Room). 2 P.M. to 3.45 p.m., Mr. G. Waugh: Practical Demonstration of Enucleation of Tonsils (Operation Theatre of Out-patient Department). 4 P.M. to 5 P.M., Dr. R. Hutchison: Infantile Scurvy (Lecture Room). 5.15 P.M. to 6.15 P.M., Dr. F. J. Poynton: Rheumatism in Childhood (concluded) (Lecture Room).
FRIDAY.—9 A.M. to 10.30 A.M., Mr. A. Lane: The Operative Treatment of Fractures (Operation Theatre). 10 A.M. to 11 A.M., Dr. R. Hutchison: The Feeding of Infants (Lecture Room). 3 P.M. to 4 P.M., Mr. G. Waugh: Abdominal Pain (Lecture Room). 4.30 P.M. to 6 P.M., Mr. Addison: Demonstration of Cases and Skiagrams Illustrating the Treatment of Diseases of Bone (Lecture Room).

SATURDAY.—9.30 A.M. to 10.30 A.M., Dr. W. S. Colman: Congenital Heart Diseases, with Special Reference to Prognosis (Lecture Room). 11 A.M. to 12.30 P.M., Dr. Nabarro: The Value of Lumbar Puncture in the Diagnosis of Nervous Diseases in Children (Pathological Laboratory and Lecture Room).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Collier: Bulbar Paralysis.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Collier: Cerebral Diplegia.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

THURSDAY.—6 P.M., Dr. M. Dockrell: Essentials, Clinical and Pathological, to the Diagnosis of Diseases of the Skin.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

WEDNESDAY.—4 P.M., Lecture:—Dr. R. W. A. Salmond: Differences in the Radiography of Children compared with Adults.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. C. H. Melland: Heart Disease, Some Recent Developments. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

TUESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M. Aural and Ophthalmic), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (12th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye (2 P.M.), the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily. At the Western Ophthalmic Hospital operations are performed on Monday, Tuesday, Thursday, and Friday at 2 P.M., and on Wednesday and Saturday at 10 A.M.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 2nd, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks.
Sept. 26	30·16	E.	...	94	60	49	47	50	Fine
,, 27	30·16	S.E.	...	100	62	45	46	48	Fine
,, 28	29·96	S.E.	...	95	61	48	50	53	Cloudy
,, 29	29·84	S.	0·05	99	62	53	54	56	Cloudy
,, 30	29·42	S.	0·90	76	63	53	55	55	Raining
Oct. 1	29·35	W.	0·98	102	63	49	49	50	Cloudy
,, 2	29·62	N.	0·35	54	50	48	47	48	Raining

The following journals, magazines, &c., have been received.—Bedrock, Annales de l'Institut Pasteur, Surgery, Gynecology and Obstetrics, Sleeping Sickness Bulletin, Journal of the Royal Sanitary Institute, Archiv für Experimentelle Pathologie und Pharmakologie, Therapeutic Gazette, British Journal of Dermatology, British Journal of Inebriety, Prescriber, Annali dell' Istituto Maragliano.

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